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*Official Journal of the American Geriatrics Society*

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## FOREWORD

This issue of the Journal is devoted to psychiatric problems of older people. When one bears in mind that more than 50 per cent of all beds in national and state hospitals are occupied by patients with mental disease, the enormity of the problem becomes immediately apparent. In June of 1954, under the able direction of Doctor Raphael Ginzberg, Chairman of the Geriatrics Board, and Doctor F. Y. Billingslea, Chief of the Clinical Psychology Service, Veterans Administration Hospital, Tomah, Wisconsin, a conference on the hospital handling of the geriatric neuropsychiatric patient was sponsored by the geriatric and psychology services of the Veterans Administration Hospital at Tomah. The papers presented at this conference were interesting, instructive, hopeful and inspiring. Doctor Ginzberg has very kindly acted in the capacity of guest editor and has gathered together from the conference for publication in the Journal the papers that appear in this issue. Each one is a distinct contribution in its field and a careful reading of these papers will result in a clearer understanding of what is being done to help the geriatric neuropsychiatric patient.

We are deeply grateful to Doctor Ginzberg for his kind cooperation and are happy to be able to present to our Fellows this special issue.

EDWARD HENDERSON, M.D.

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# ORIENTATION IN GERIATRIC PSYCHIATRY*

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At present, geriatric psychiatry is in a state of transition. There is an awareness that custodial care is not the answer to the problem; there is need for better understanding, for more effective therapeutic methods, and for another approach to the increasing number of elderly patients. We are, however, at the very beginning of a development and, as in any state of transition, ideas and practices are not crystallized, terminology is not well established, and the extent of the use of new methods is not well known.

## HOSPITAL GERIATRIC PROGRAMS

Several hospitals, independently, have developed new programs for their geriatric patients. Such programs exist for instance—to mention a few—in Fergus Falls, Minnesota; in Norristown, Pennsylvania; in Louisville, Kentucky; in St. Elizabeth's Hospital, Washington, D. C.; to some extent in Perry Point, Maryland; in St. Louis, Missouri; in the Veterans Administration Hospital, Tomah, Wisconsin; and in some other hospitals.

However, reports of observations are often contradictory, concepts that are developed are in part still deeply rooted in the static practices of the past, and some others are without a doubt influenced by dynamic ideas of contemporary psychiatry. There is also a third group of hospitals—the majority—which continues out-dated practices of custodial care while skeptically awaiting results achieved somewhere else.

Too little time has elapsed since these separate programs began, to enable us to gather enough critically evaluated and convincing material for establishing new standards of treatment; and so-called "chronic" wards, to which elderly psychotics are usually relegated, still make a very depressing impression.

In better managed hospitals, particular interest is paid to the physical needs of the aged patients. Since custodial psychiatry has been chiefly interested in maintaining a certain equilibrium in the patient's vegetative functioning (*i.e.*, nourishment, physical health and sleep), antibiotic medication has been used intensively, vitamins and sometimes hormones have been administered, and some remarkable results have been achieved. As a rule, however, these therapeutic attempts have been successful chiefly in improving elderly psychotics' physical condition, while their mental status remained completely or almost completely unchanged. This, in turn, has created an impression that not too much can be done to improve the mental condition of geriatric patients, or to facilitate

* Based on a paper presented at the conference on "The Hospital-Community Handling of the Geriatric Neuropsychiatric Patient", Veterans Administration Hospital, Tomah, Wisconsin, June 9–11, 1954.

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their adjustment to their environment. Diagnostic and therapeutic means based on psychologic methods have therefore rarely, if ever, been used. Few have really believed that effective results can be achieved by applying modern psychiatric methods to psychoses in advanced life. In fact, such treatment would seem to be blocked from the very beginning by the elderly psychotic's attitudes, by his resistance, by his impaired intellectual abilities and inaccessibility to logical argumentation.

All these difficulties actually exist, and it is not our intention to minimize them. Communication with many elderly psychotic individuals creates problems that often appear to be insurmountable; and the so-called confused, disoriented, withdrawn or restless elderly psychotics are therefore too easily classified as hopeless cases. Consequently, their inner conflicts are investigated only slightly, if at all, and their psychologic difficulties, disappointments, worries and fears are, for the most part, overlooked. As a rule, not the inner life of the elderly psychotic, but his manageability—whether or not he creates problems on the ward, whether he is cooperative or uncooperative, whether he is a "good" or a "bad" patient—has been used as the principal criterion for the clinical evaluation of his mental condition. Preference has then been given to the so-called "cooperative" patients, and little or no interest has been shown in determining the psychologic or environmental factors that might be the cause of patients' behavior, be it compliant or defiant, social or antisocial.

There is another fact that has to be taken into account. Members of the medical staff of the average state or federal mental hospital are in charge of hundreds of so-called "chronic" psychotics and are hardly in a position to take care of a patient individually unless their attention is called to his condition. This usually occurs in cases of acute physical disease or in mental states which create problems of ward management. Under such circumstances, quick decisions have to be made and there is rarely room or time for other than *ad hoc* action.

Were hospitals adequately staffed, conditions would be different. However, an increase in the number of physicians would not in itself produce basic changes in the treatment of elderly psychotics, as long as a climate of finality and hopelessness continues to dominate our thinking and influence the basic philosophy of geriatric psychiatry.

## CONCEPTS OF MENTAL DISEASE IN THE AGED

To change fundamental principles is usually more difficult than may be apparent at first glance. Generations of physicians have been raised in an atmosphere of hopelessness toward the aged. This attitude appeared to be justified by the very fact that their elderly psychotic patients had come to the end of their lives, and that the inescapable reality of death took care of situations which were beyond the reach of human skill, of science, or of medicine. The two main diseases most frequently found in elderly psychotics—cerebral arteriosclerosis and various forms of senile dementias—were considered related to the process of aging. Decline, degeneration and destruction, all processes that were thought to

be unavoidable concomitants of advanced life, seemed to explain the course of the psychosis and to prove the futility of any therapy that might be directed against the causative factors. Consequently, the patient was left to himself, and his psychologic needs were left to the wisdom of those who happened to spend most of the day with him.

This hopeless atmosphere of the past is in the process of changing today. The "good old days," when the inevitability of disease in old age was taken for granted, are over. Serious doubts have been cast on concepts of the character of mental diseases that were considered typical psychoses of senescence. Arteriosclerosis (the present-day main cause of death and of geriatric psychosis) is a striking example. It is now known that this disease can occur at any age from 2 months up to 100 years or more. It is more frequent in advanced life, but an aging individual is not necessarily an arteriosclerotic one. The greater incidence in advanced life does not warrant the theory that it is a degenerative disease which is related to the process of aging, any more than the greater incidence of poliomyelitis in younger age groups warrants the theory that it is a juvenile disease which is related to the process of growth.

Evidence is also accumulating that the next most frequent group of diseases—the so-called senile or presenile scleroses, psychoses or dementias—are also not unequivocally related to the process of aging. The earliest case of Alzheimer's disease, for instance, was known to occur in a boy at the age of 16. On the other hand, cases of Alzheimer's disease have been seen in the late seventies and eighties. These observations suggest the possibility that the senile and presenile dementias are caused by similar etiologic agents and form one nosologic entity not necessarily related to the process of aging.

Another hypothesis, namely, that of the irreversibility of mental symptoms, can not stand up under the critical evaluation of present-day research. The use of various methods of treatment, whether chemotherapy, electroshock, hormones, vitamins or psychotherapy, has demonstrated that psychotic symptoms which had been considered irreversible can be improved and in some instances cured. It has further been shown that the degree of psychotic manifestations and the adaptational abilities of the elderly psychotic do not always depend on the presence or absence of alterations in the brain tissue, and that environmental factors play a considerable role in the development of the symptomatology of all psychoses and in the development of the manifestations which are so often seen in the later years.

It should not be denied that psychoses which are frequent in advanced life are organic psychoses *par excellence*. A damaged brain, however, is not a destroyed one. It continues to function in a given environment. The symptomatology of the disease is brought about, not only by somatic or organic alterations, but by a combination of factors. The psychotic behavior results from interaction of the organically damaged personality with his environment, adding to the total picture a variety of psychologic components which are both reversible by nature and accessible to changes. An elderly psychotic makes continuing efforts at new

adaptations. If he does not succeed, it is not only because of his organic changes, but also because of lack of response and understanding on the part of people in his immediate environment.

## CONCLUSIONS

The re-evaluation of our accumulated experience helps to create a different climate today for geriatric psychiatry. Present-day concepts have opened new vistas in our approach to elderly psychotics. Essential groundwork is laid, the main obstacles to clinical and laboratory research have been removed and, although the geriatric psychiatrist still has to pave his own way in almost every geriatric case, a therapeutic inertia is no longer justified. An active and dynamic approach to psychoses in advanced life is a contribution both to the patient and to future achievements.

Unfortunately many heterogeneous factors make the use of new principles in geriatric psychiatry difficult. A few of these factors are:

a. Failure of the existing diagnostic nomenclature to provide sufficient information about the actual mental condition of the patient.

b. Retardation of the introduction of new methods, because of the absence of standard procedures based on modern principles.

c. Lack of trained personnel, and the insufficient number of psychologists and psychiatrists assigned to geriatric wards; this makes any systematic work extremely difficult.

d. Lack of interest in geriatric psychiatry on the part of experienced psychiatrists as well as residents and/or trainees. Such indifference is a serious handicap for further developments.

These and other discrepancies and difficulties can, and must be overcome. When this is accomplished, geriatric psychiatry will be more adequately prepared and more appropriately equipped to bear the pressure of the steadily increasing number of elderly psychotic and semi-psychotic individuals, together with all the problems they create for themselves, their families, and the community as a whole.

# ORIENTATION IN GERIATRIC CLINICAL PSYCHOLOGY*

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Clinical psychology is increasingly being called upon to assist with the neuropsychiatric difficulties of older persons. It is time for our discipline to stop and take stock of its evaluatory techniques, therapeutic procedures and research findings, in an effort to see whether or not these are applicable. An adequate perspective is a necessary guide for such a task. Such a perspective is the purpose of this paper.

Many writers have stressed the point that the United States is approaching an older population which is greater, both absolutely and relatively, than has ever been known in any other country, including China. This rapid increase in the number of the elderly (gerontols) is, and will increasingly be reflected in the first-admission rates to our neuropsychiatric hospitals. In the Veterans Administration the problem is enhanced, since without wars their hospital populations are ones of increasingly older average age levels for first admissions and for long-term hospitalizations.

It is obvious that gerontols would present no new problems if it were not for the processes termed "aging." The theories pointing to physiologic changes in the gerontol imply or postulate that they result from growth processes inherent in the germ plasm, that they are irreversible and that they occur after fundamental biologic functions have been fulfilled. On the other hand, Harris (1) recently reported that his germ-free rats raised in a germ-free environment for generations do not show the liver changes usually associated with aging, unless germs are introduced into the gastro-intestinal tract. Theorists, following Harris' emphasis, argue that the degenerative or involutional processes are caused by infections, toxins and nutritional disturbances which impair the general functional and regenerative capacities of the body cells. They claim that alleviating the effects of degenerative diseases and aiding the body to remove wastes should permit man to live to 150 years or older. Thus we have as a crucial problem in dealing with the gerontol, the need to distinguish between normal physiologic senescence which is irreversible, and pathologic senescence which is preventable and reversible.

Unfortunately, because many of the changes found in old age are common and widespread, they are considered normal and typical of senescence. They, however, "could just as accurately be considered pathological in origin. They are distinctly maladaptive and, if they occurred during any other period of life, they would be called abnormal." (Coleman (2).)

* Based in part on a paper presented at the Conference on "The Hospital-Community Handling of the Geriatric Neuropsychiatric Patient," Veterans Administration Hospital, Tomah, Wisconsin, June 9–11, 1954.

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Psychology, like other disciplines working with the gerontol, must "face up" to this problem of what constitutes typical senescence. It is well known that psychology's concept of intellectual ability is derived from a comparison. One person's ability to solve problem situations is compared with the ability to solve the same problems demonstrated by an adequate selection of people of his own chronologic age and general opportunities. This procedure is not as adequate with the gerontol, however, because the comparison group has so many unusual individual differences that it is difficult to develop a representative scale within any particular small chronologic age range. This same factor applies to other aspects of personality besides intelligence. Shall we solve it by using normative data for comparisons at the age range showing maximal efficiency? This would allow our coefficient to indicate that a particular gerontol has a certain percentage of this maximal efficiency. Perhaps we can obtain a lead from the recent report of Ames *et al.* (3) concerning their normative Rorschach data in gerontols. They finally dropped the chronologic age scale as being meaningless and adopted three patterns of Rorschach responses, regardless of chronologic age, which they labeled "normal," "pre-senile" and "senile." Interestingly, the behavior characteristics of these three groups "reflect in many aspects exactly the reverse of the changes which take place from childhood to adulthood" (3). Three of their 41 "normal" subjects were in their nineties. More specific instances were handled by Birren (4) when he showed that slow reaction time in the gerontol "has been found to have more general significance than previously believed." He pointed out that "serial mental tasks are particularly unsuited for gerontols since with insufficient speed the serial steps become disorganized." Likewise, such a slow individual "may display aberrant behavior when exposed to the pressure" of such a task, but if given sufficient time to make the required discrimination, the "panic behavior is relieved." Further, he suggested employment of the compensations for abilities altered with age, which results in undiminished quality of output, although those compensations may require additional time. However, he urged the measurement of verbal fluency or speed of association, as well as vocabulary size, in order to detect a "verbal facade of adequacy that masks considerable deterioration."

Unfortunately for clinical psychology and the gerontols involved, our society has defined a gerontol role for the latter which is quite similar to the pre-senile pattern described by Ames *et al.* Gerontols are expected to live up to—or down to—this role. If they don't, they are called immature and, therefore, suspect. This role appears to be assigned by society for application in or about the chronologic age range of 50 to 55. How many individuals who behave in this "immature" manner do so as a result of this social pressure rather than as a response to senescence? For example, Davidson and Kruglov (5) found in their Rorschach study that gerontols tended to give a constricted pattern of responses and were especially inhibited in their affective reactions to environmental stimuli. However, Seigman (6) in a Rorschach study of young adult Yeshiro students taking very orthodox Jewish rabbinical training found an almost identical pattern and

attributed it to cultural isolation. How does this affect our norms? What does it do to the individual's adjustment picture if he rebels against assuming this arbitrary role? As it now stands, the stages of a man's life shift from being a little shot to being a big shot, and to being a little shot again, with the expectation of working up to being a big shot again. Becoming a gerontol requires that he once again be a little shot—this time to be followed only by death. Is this a prime asset for good psychotherapeutic results? What happens to our judgment as to the presence of neuroses and character disorders under such conditions? It is in this same vein that Birren (4) cautions that "anyone concerned with diagnosis in the aging, particularly in the psychological area, should be aware of his own position in the generations and his attitudes and biases toward the processes of aging."

Still another problem arises in the area of the psychoses. Is our problem one of dealing with the direct effects of senescence? Perhaps—but the writer is not aware of any evidence that nonpathologic, irreversible aging processes necessarily lead to psychotic behavior of sufficient duration and integrated patterning to be termed a psychosis. Irrefutable evidence is available, furthermore, indicating that the presence of cerebral degeneration or of arteriosclerotic brain changes infrequently mean that a psychosis is present or will necessarily develop; therefore, hospitalization probably will not occur, in most cases. On the other hand, evidence is accumulating with increasing speed that certain disturbances in brain metabolism at the thalamic and cortical levels are highly correlated with the presence of psychoses (7). These disturbances, however, are not necessarily part of normal senescence or irreversible; nor are they of a pathologic type characteristic only of the gerontols. One is forcibly led to the obvious conclusion that the gerontol who behaves with such a degree of maladjustment as to require hospitalization, does so because his personality lacks the capacity to withstand or compensate for brain damage or metabolic breakdown. This "lack of capacity" appears to include a few hereditary factors, but consists principally of inefficient fear, anxiety, and defense mechanisms. These habits may lead of themselves to a psychotic pattern of behavior; or they may lead to a breakdown in brain metabolism and then to a psychosis. This point seems extremely important, and has the following applications: 1) The situation is no different from that which occurs at earlier age levels; thus similar diagnostic and therapeutic principles are involved. 2) A greater emphasis on reduction of intra-personal and inter-personal stress conditions is mandatory. 3) It is necessary to learn how, and to what extent senescence and/or disease modifies the gerontol's ability, in order to profit by our present type of therapeutic procedures based upon the application of learning principles. This probably means that our emphases must be on the patient's assets—his possible productive behavior—rather than his liabilities. 4) We need to learn what system of motivations and life purposes will work successfully for the gerontol in our culture. 5) We should know what combinations of therapeutic techniques, aimed at organic brain functioning and at modifications of learned patterns, will be adequate for this group. 6) It is necessary to establish objectives

of treatment that are realistic for this group. 7) We need to discover the principles that may be brought to play, which tend to prevent breakdowns that eventually require hospitalization.

The survey by clinical psychologists suggested in the opening paragraph of this paper might provide answers to some of these problems. As for the others, perhaps a new slant might be found—a new orientation that would permit the discovery of adequate solutions. In any event, it would be expected that in the process of finding answers to some of these questions, many more unsolved problems would be brought to light.

REFERENCES

1. HARRIS, R.: The challenge of aging, *J. Am. Geriat. Soc.* **2:** 210–215, 1954.
2. COLEMAN, J. C.: Abnormal Psychology and Modern Life. Chicago; Scott, Foresman & Co., 1950.
3. AMES, L. B.; LEARNED, J.; MÉTRAUX, R. W., AND WALKER, R. N.: Rorschach Responses in Old Age. New York, Paul B. Hoeber, Inc., 1954.
4. BIRREN, J. E.: Psychological orientation to diagnostic problems in the aging. Paper presented at the Geriatric Conference, V. A. Hospital, Tomah, Wis., 1954.
5. DAVIDSON, H. H., AND KRUGLOV, L.: Personality characteristics of the institutionalized aged, *J. Consult. Psychol.* **16:** 5–11, 1952.
6. SIEGMAN, A. W.: Personal communication. (Material in preparation for publication.)
7. GELLHORN, E.: Physiological Foundations of Neurology and Psychiatry. Minneapolis, University of Minnesota Press, 1953.

# COMMENTS ON THE HISTORY OF GERIATRICS

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For many years I have been interested in medical history, in the distribution of diseases and in the origin of medical terminology.

To give a specific history of gerontology or of psychiatric geriatrics is impossible, because these two phases of medicine are interwoven and often discussed in detail in most of the writings from the time of Hippocrates. Since antiquity, the literature on the developmental origin of species and on the subjects of soma and psyche refers commonly to the manifold problems of aging, often with fantastic speculations and curative formulas for the arrest of the involution of mankind and for postponement or avoidance of the deterioration of old age. Remember the fountain of youth of Ponce de Leon, the magic of Faust, the Shangri-la of James Hilton, as well as the many remedial potions since the Biblical epoch. The Greek "Geron," the Roman "Patriarch," the German "Greis" and the English "Old man" are terms for the senescent population of a nation. Literary and scientific tomes on the subject are frequently encountered when browsing through the psychiatric books of the 19th century. I was not surprised to find many detailed descriptions, not only of the illnesses and care of old age, but also of the socio-economic problems. However, the medical science for which Nascher in 1909 coined the term "geriatrics" has no specific history.

Healthy old age (senescence) begins chronologically at the age of 65, but it by no means has negative connotations. The "normal" long-lived person over 80 years of age may be fresher, keener and more efficient than a much younger contemporary. Aging is associated with the accepted common implication of physical or mental debility, degenerative tissue changes, and cerebral dysfunctions. Yet the passage of time is not alone a causative factor in the aging of the human organism; rather, aging is probably due to some disintegration of a once harmonious interaction of organs for the total requirements of life's functions—this interaction being based upon physical, chemical and nutritional demands and upon complex environmental influences, including diseases.

Modern science is unveiling some of the mysteries of life, and providing answers to important questions concerning heredity, genetics, prophylaxis and therapy. The increasing number of old people confronts us with a serious situation. It is not a new one, but is of much greater extent than ever before, so that today old age is one of our most important medical problems, not alone for the physicians but for the social economy of the country. It is not my task to present statistics, to give comparative data on treatment and self-care projects, or to emphasize the economic questions. These will be considered at this conference by qualified investigators. Suffice it to repeat that there is no specific medical history for "psychiatric geriatrics."

Senescence is a gradually developing complex or syndrome of organ and tissue involutions. When these become sufficiently advanced and are clinically apparent, then "age is upon us." For most human individuals, 65 to 70 years of age is the critical period.

Benjamin Rush, in 1797, described in his "Medical Inquiries and Observations" (Vol. 2) the "State of the Body and Mind in Old Age" so well, that I recommend that all of you read what the Father of American Psychiatry has to say on the subject.

# ATTITUDE THERAPY IN GERIATRIC WARD PSYCHIATRY*

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Psychoses that start and develop in advanced life are predominantly organic in nature. The extent of pathologic changes, and the part these changes or their psychologic counterparts play in the dynamics of geriatric psychoses, are, however, very difficult to determine. It is apparent that more analytical studies are necessary in order to gain better insight into mental disorders in advanced life. More information is particularly needed regarding the interplay of somatic and mental factors and their relationship to the environment. Knowledge in this area is not only necessary for further understanding of the etiology and pathogenesis of geriatric psychoses, but also in regard to the development of immediate therapeutic methods, for which there is an acute need at the present time.

As things look today, the population of geriatric wards in mental hospitals consists predominantly of old schizophrenic patients. In recent years, however, one group of older patients is progressively enlarging. This group includes the actual geriatric psychoses, *i.e.*, those psychoses which have begun in advanced life and are currently diagnosed under such categories as cerebral arteriosclerosis, senile and presenile dementias, or involutional diseases. As time goes by, in cases of long-standing schizophrenia, in addition to the original mental disturbances there appear symptoms which are caused by the same pathologic changes as in nonschizophrenic patients. This narrows down the differences in psychotic behavior, or at least in some manifestations, between the two large groups (the schizophrenic and the nonschizophrenic), making possible the development of basic principles for a psychologic approach to institutionalized elderly psychotic patients as a whole.

This paper is primarily concerned with mental illnesses which have started in advanced life; occasionally, however, reference is made to elderly patients with mental disorders which started in the younger years. Clinical observations are presented, mostly from the angle of the changes which result from the interchange between the mentally damaged elderly person and his environment. The intention is not so much to give an exhaustive account of symptoms which occur in the course of geriatric psychoses, as to attempt an analysis of the psychologic implications of changes resulting from organic pathologic processes. Attention is given to the analysis of psychologic dynamics, particularly those aspects that affect intrapersonal orientation and interpersonal contact. In this respect, of primary significance are disturbances which create difficulties in com-

* This paper is based on clinical demonstrations and a paper presented at the conference on "The Hospital-Community Handling of the Geriatric Neuropsychiatric Patient" at the Veterans Administration Hospital, Tomah, Wisconsin, June 9–11, 1954.

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munication and those that lead to impairment in various areas of the personality concept.

### A. ORGANIC ASPECTS

*Difficulties in verbalization*

The principal means of communication is verbalization. However, difficulties in verbalization create far greater problems among elderly psychotics than in any other age group. Those who suffer from after-effects of cerebrovascular accidents are not the only ones who have this handicap; patients with such disorders as so-called senile or presenile dementia, arrested general paresis, the Parkinsonian syndrome, or an advanced demyelinizing process, constitute a reservoir of these disturbances. As many as 40 per cent of the elderly psychotics on the geriatrics wards in Tomah manifest obvious speech defects classified as organic in origin.

Nevertheless, it is astonishing to observe how far an aphasic patient can develop his adaptational abilities. He learns to reduce his needs to a minimum, to accept inconveniences, and to suppress bitterness, irritability and dissatisfaction. The people in his environment, in turn, learn to understand some of his primitive needs such as lighting a cigarette or providing a glass of water; but very often one can observe how such a patient desists from his attempts in hopeless desperation. Particularly tragic is the situation for paraphasic patients and for those who have difficulties in word-finding. Their organic speech defects with subsequent psychologic reactions are frequently misinterpreted as symptoms of mental deterioration.

*Disturbances of personality concept*

Disturbances which can be grossly classified as impairments of the personality concept are often difficult to recognize, since they rarely appear as isolated symptoms but may be accompanied by other manifestations which obscure the overall picture. As shown by several investigators, these disorders have at least a strong organic component. Related disturbances include those known as body-scheme or body-image disorders. (For pertinent literature and description of the character of these disorders *see* References, Part II.) Such disturbances in personality concept may determine the elderly psychotic's behavior. A few cases are presented for illustration.

**a.** Body-image disorder

*Case 1.* **O.,** was a man aged 76. Diagnoses: 1) Chronic brain syndrome associated with cerebral arteriosclerosis with psychotic reaction. 2) Diabetes mellitus.

His condition developed gradually. Mental examination showed that he was oriented as to place, but orientations as to time and person were only approximate. When asked how old he was, he might answer 68 or 59 or any other figure. However, when better motivated, as, for example, when he discussed his pension, his age was given correctly. Answers regarding accumulated knowledge showed gaps. He was obviously aware of the unsatisfactory character of the answers, often repeating, "I am an old man. You cannot expect from an old man all the answers." When interested in the subject, particularly when complaining of his

domestic situation, he could maintain quite a reasonable conversation for some time. In other situations he searched intensively for words, not being capable of expressing himself. He had no difficulties in recognizing colors and objects, but demonstrated symptoms of body-image disorientation. When asked to point with his right "finger" (index) toward different parts of his body, he responded fairly well. He was less sure in pointing with his left index finger, and was lost if instead of his index he were asked to point with his thumbs. On these occasions he repeatedly failed to point to correct parts of his anatomy. To the question, "Where is your right index?", he responded, in the beginning, with some restlessness and hesitation, and then briskly and decisively put the right index finger on his penis saying, "Here is the right index."

### b. Denial of disease. Variant—of hospital

*Case 2.* **S.,** was a man aged 59. Diagnoses: 1) Chronic brain syndrome associated with alcoholic intoxication with psychotic reaction. 2) Laennec cirrhosis. 3) Calculus of gallbladder (from history). 4) Arteriosclerosis, general, moderate.

The patient was a tavern owner and had been drinking moderately all his life, but had never been observed intoxicated. In the previous two years there had been a gradual development of his disease. In 1952 he was seen at the Mayo Clinic, where alcoholic cirrhosis of the liver was diagnosed. On admission to the Tomah hospital in August 1953 he showed considerable memory defect, restlessness, lack of insight, poor judgment, confabulation, ideas of grandeur, and a microcytic anemia of 2,850,000 RBC with hemoglobin values ranging from 50 to 60 per cent. Cephalin flocculation was 4+. Under intensive therapy the patient showed remarkable physical and mental improvement. However, he still manifested symptoms indicating disturbances related to various phases of self-perception. In spite of the fact that he was oriented as to time, answered correctly routine questions as to place and person, and repeated five digits correctly, when asked about the type of institution he was residing in, he denied that it was a hospital, saying that it was a "kind of old age home." On another occasion he said that it was a school for readjustment. He denied also that he had been ill, although he readily admitted that he had been in Rochester, Minnesota. When asked why he was examined there, he said, "Because of my wife's disease." On another occasion he said it was because of his prostate. However, he had no symptoms which could be related to his prostate gland.

### c. Déjà vue. Misidentification

*Case 3.* **B.,** was a man aged 63. The first diagnosis was chronic brain syndrome with alcoholic intoxication; this diagnosis was changed to: 1) Schizophrenic reaction, paranoid type. 2) General and cerebral arteriosclerosis.

The *déjà vue* symptom was slightly camouflaged but nevertheless easily recognizable. The patient asserted that the name of one of the aides was not Ginger, but Greusher. He said that he had known the aide's father with whom he served in the armed forces (which was not correct). He also stated that the aide resembled his father so much that there could be no doubt about his identification. The patient was completely oriented in all three spheres.

Disturbances in self-perception, with subsequent disorientation in personality concept and its manifold manifestations, are present more frequently than is usually anticipated. They may exist in patients with almost complete orientation as to time but with impaired orientation regarding place and person, or vice versa. Even when these changes are fragmentary in nature or not too accentuated, they may form the basis of the elderly psychotic's mental disturbances, affecting primarily his relationship with the outside world (interpersonal) and with himself (intrapersonal). As a result, he faces an inner and an outer world

which are changed for him, and he lives in a subjective climate which differs greatly from that to which he has been conditioned throughout his life.

### B. PSYCHOLOGIC ASPECTS

*Awareness of own defects*

The question of whether a disoriented, forgetful, confabulatory, hallucinatory, or otherwise disturbed elderly mental patient is fully or partly aware of his own disturbances has rarely entered the picture in considering the dynamics of geriatric psychoses, and yet there is convincing evidence that awareness is a widespread phenomenon not only among the less, but also among the more damaged individuals.

For instance, it may be easily shown that elderly psychotic persons are more aware of their speech defects than is realized. Often, when the patient cannot adequately verbalize his needs, the frustration and disappointment culminate in a tirade of accusations and cursing, which suggests a poorly motivated psychotic reaction. In reality, this outburst of temper is motivated by his awareness of his defect and his dissatisfaction with himself and the environment. If this is recognized, the outbursts can be handled psychotherapeutically.

Speech difficulties are not the only defects of which the elderly psychotic may be aware. He can be aware of disturbances which are related to perception. He can be particularly conscious of his memory defects and of his impaired orientation. One case is cited for illustration:

*Case 4.* **V.,** was a man aged 69. Clinical diagnosis: Chronic brain syndrome with cerebral arteriosclerosis and psychotic reaction.

Before admission to this hospital he was a resident of a VA Domiciliary and made an excellent adjustment to that environment. In July 1953 he was found wandering aimlessly about the grounds, not finding his way back to his living quarters. He was disoriented and confused when admitted to this hospital. Here he made a comparatively good adjustment to the hospital routine, was always neatly and cleanly dressed, pleasant in manner, friendly and smiling when approached, but trying to avoid conversations. He had a complete amnesia for the whole of his stay in the Domiciliary. He also had other misconceptions; he thought that his mother was still alive although she died long ago, and believed that his sister was in this country although she lived abroad. He was uncertain about the day of the week, the month and the year, and resented very much being asked these questions. This awareness of his memory defects and impaired orientation could be demonstrated on several occasions; although placed on an open ward, he left it on rare occasions, admitting spontaneously that he did not know the number of the building and was afraid he would not find it. Later, however, he developed his own orientation system. In order to avoid asking others the location of the building, he would go up to a point from which he could clearly see the water tower that was situated just outside his windows, and from there he had no difficulties in finding the ward. Although very proud of his solution of his problem, he was still very doubtful about whether he could find his way back, and therefore left the ward very seldom.

It may appear that there can be no awareness in a patient who is disoriented, forgetful, or considered to be confused. Such a term as confusion covers so much territory and in such a generalized way that it blocks further analysis (and therefore better understanding) of a patient's behavior. Confusion implies that com-

munication with the patient is either impossible or, if an attempt is made, will actually lead nowhere because of the disorganized form of his mental functioning. In reality, a closer contact with a so-called confused elderly person discloses that his reactions are much more complicated than they appear to be, and that not the patient's condition but present-day evaluations obscure the issue, by brushing aside many important elements of his mental functioning. In the complex mental disturbances which are hidden behind such a static description as confusion, awareness by the patient of his own defects occupies an important place. In many seclusive elderly psychotics, awareness of their impaired faculties is the basis for the motivation of their behavior.

*Withdrawal. Over-cautiousness*

Seclusion is a widespread phenomenon among elderly patients with openly aggressive, as well as with apparently nonhostile patterns of behavior. About 25 per cent of our elderly psychotics who are given ground privileges either refuse to leave the ward or do so very reluctantly. Among them are the patients with phobic reactions, or those who are reluctant to accept the idea of moving around after having been conditioned for years to confinement on locked wards. The majority, however, act under pressure of the awareness of their defects. They are either afraid they may get lost, consider their physical condition to be a handicap, or do not want to expose their defects, pretending or confabulating that they have no problems. Several of them are gradually giving up their resistance and are stimulated by various activities, but there remain a number who prefer not to leave the ward even after spontaneously expressing a desire to go to the canteen, the library, or other place of interest. Moreover, some patients who used to attend the movie shows with a group while they were on locked wards have given it up since they could make their own decision.

Geriatric patients need much more encouragement than supervision. As a rule, the elderly psychotic is cautious and adheres strongly to the habits he has developed previously in the hospital. This attitude may be illustrated by a discussion and decision made regarding cigarette lighters at one of the regular ward business meetings. Although it has been the practice of the hospital to permit the use of lighters by privileged patients, the majority of patients at the meeting (all with ground privileges) decided not to use them on geriatric wards, since they were felt to be more dangerous than matches.

*Anxiety*

Anxiety is a phenomenon which is encountered in any age group under pathologic as well as physiologic conditions. Attention is called here not to every manifestation and cause of anxiety observed in advanced life, but only to certain aspects of it.

As has already been outlined, organically caused difficulties in communication with the outside world, and disturbances in self-perception with resulting disorientation in the personality concept, have a deep influence on, and sometimes dominate the psychologic make-up of an elderly person. One of the psycho-

logic consequences of such organic developments is the patient's increasing uncertainty. In fact, he can rely increasingly less upon his perceptual abilities and intellectual faculties, and he faces an inner climate which is in many respects foreign to him. Under such circumstances the elderly psychotic feels more threatened and much more exposed to dangers, real or imaginary, than in almost any other period of his life. He gradually loses the ability to distinguish between real and non-existent dangers, and is in a permanent state of tension and fear. He can easily slide into a state of extreme anxiety that may culminate in panic.

This anxiety or panic is the cause of the most dramatic psychotic manifestations, and is particularly obvious in cases of comparatively recent development. The puzzled and frightened patient is seeking help, but does not get it from his surroundings. Instead of help he encounters desperation, instead of clarification he finds bewilderment, and instead of ease he is thrown into an increased state of tension. It should not be surprising, therefore, that he denies cooperation, or that his attitude is deeply asocial, thus making life intolerable for both him and his environment.

The patient is more accessible in the initial phase of his psychosis but it becomes increasingly difficult to get in touch with him in the later phases. In the later stages we have to deal with already deeply rooted fixations which have resulted from the interaction of the elderly psychotic's disturbed personality and his experiences with the outside world.

*Aggression*

Although less frequent than among mentally ill of younger age groups, openly aggressive, belligerent and hostile behavior is also encountered among elderly psychotics. Generally, however, the manifestations do not go beyond the verbal stage. Even so, no outburst of temper or hostile reaction is caused by the mental condition alone; it has to be stimulated, precipitated, or provoked either by environmental factors, by intrinsic factors not related directly to the mental process, or by both.

The next case has been chosen to demonstrate how a combination of extrinsic and intrinsic factors leads to an aggressive attitude on the part of the patient, to general confusion of the environment, and to misconceptions concerning the character of the elderly psychotic's reactions:

*Case 5.* **Sch.,** a man aged 70, was a husky and fairly strong elderly individual. The diagnosis was: Schizophrenic reaction.

His disease was considered as service-connected, and he received a pension. After an acute psychotic episode which followed World War I, he had stayed home for more than twenty-five years, and had not created any particular problems. He was oriented in all three spheres, and was coherent and relevant. He was brought to the hospital because he threatened to kill his brother-in-law. In the first four weeks of his stay here, he made a satisfactory adjustment, was given ground privileges and, although verbally belligerent, did not cause any disturbances. During the fifth week, he started to complain of abdominal sensations and difficulties in urination. A bilateral direct inguinal hernia was considered to be the cause of his complaints. Since the patient refused surgical intervention, trusses

were ordered for him. However, he became increasingly restless, and threatened aides, nurses and other personnel, some of whom he singled out for physical extermination, promising to kill them. He lost sleep and sedatives were prescribed. On one occasion sodium amytal® by injection was ordered. The patient resisted the injections and several aides were asked to hold him. The next morning he was more hostile than ever. In an exploratory interview with him it became obvious that he was afraid that he would die from an incarcerated hernia. He said that his father "suffocated" in his own feces as a result of a rupture. Since all the prescribed medication did not bring him relief, he became increasingly apprehensive regarding his micturition and defecation. Urine and feces were distributed over his room, bed and clothes, and the patient himself barred entrance to his room to those aides and nurses whom he accused of trying to poison him. After the patient was transferred to the hospital ward, where a permanent catheter was installed and he began to feel more comfortable, his aggressive, destructive, belligerent attitude disappeared. He said spontaneously, "Since I feel better, I get along better with other people, too."

Another case demonstrates that aggressive behavior is actually part of the psychotic's defense pattern:

*Case 6.* **H.,** was a man aged 61. Diagnoses: 1) Schizophrenic reaction, paranoid type. 2) Crippling arthritis.

Up to the age of 56 he was never institutionalized. He was well oriented in all three spheres, and was not hallucinated. He resented his stay in the hospital, saying that he was "framed, railroaded, and shanghaied" when brought here. He threatened to punish the doctors, whom he made responsible for his commitment. He used profane language extensively when for some reason—and this happened quite often—he was irritated and felt threatened. He could, however, be friendly when he was not in an aggressive state. He was given ground privileges. Nevertheless, he avoided visiting other patients although he was perfectly capable of maintaining conversation for any length of time. He chose the most isolated places on the grounds, or preferred to stay in his room, and refused to participate in occupational therapy activities. The motivation for his seclusive behavior gradually became apparent. He refused to go to any place where crowds of patients could be met because he was afraid of getting "in trouble"—being involved in an argument or in a scuffle. His fear of exposing himself to threats was so deeply rooted that he refused to accept a transfer to another ward with more activities and better socialization opportunities, in spite of the fact that from there he would have a greater chance to leave the hospital without permission, a deed which he had seriously been contemplating.

*Domination*

The ideal of a middle-aged or elderly person within our culture is to occupy a social position which is expected to assure respect, a certain independence, and the feeling that one is a determining factor in life. These cultural patterns—a need to be respected, a desire to manage rather than to be managed, to decide rather than be the object of decisions—appear among elderly people as surface manifestations more often than among younger age groups. Elderly psychotics are actually deprived of activities of this kind. Therefore hyper-compensatory mechanisms develop, which are often expressed in domineering tendencies which, in turn, may be a considerable factor in the patient's inner motivation. These tendencies can, however, be easily overlooked, since they are usually accompanied by aggressive verbalization and paranoid ideas. That domination is the moving power, and constitutes a part of the patient's defenses, is illustrated by the next case:

*Case 7.* **Ba.,** was a man aged 81. Diagnosis: Chronic brain syndrome with cerebral arteriosclerosis and psychotic reaction.

He was admitted to the hospital following an accident with cerebral concussion. He was oriented in all three spheres, had some mild memory defects, but was capable of maintaining a conversation when none of his paranoid mechanisms were involved. He was demanding, and bitterly opposed to his stay in the hospital. From time to time he decreed that he was going to leave, asking to have a cab ordered for him. There were periods when he did so almost every day. Sometimes he gave up in frustration and tried to demonstrate that he was sick but did not receive appropriate care in the hospital. However, when it came to discussing his problems with him, and suggesting that he accept a certain minimum of requirements considered essential in hospital practice, he became resistive, noisy, bossy and insulting, and preferred to return to his pseudo-domineering pattern of behavior rather than accept propositions which would immediately improve his status and bring the opportunity to be released much closer to realization. However, while in the midst of a rage, denouncing, for instance, the doctor who symbolized authority to him, he could change his attitude in a matter of minutes and be pleasant and genial to any other person who was an indifferent factor in his fight for his goals.

*Confusion. Adaptation. Defenses*

The word "confusion" is often used in the description of an elderly psychotic's mental condition. It has never been entirely clear what has been understood by this term. As a rule, confusion implies impairment of logical thinking, some degree of disorientation, rambling verbalization, meager contact with the environment, and difficulties in making oneself understood. The word confusion has also been used in less outspoken situations, when only some areas of mental activity, especially orientation and abstract thinking, are thought to be affected.

However, to label an elderly mental patient as confused is not enough. We are already in a position to use a more dynamic approach to the functioning of an elderly psychotic's mind. Pathologic-anatomic and psychologic analyses provide much more insight into, and understanding of the complex dynamics of geriatric psychoses. Organic and psychologic components are equally important in the pathogenesis of these diseases, and neither can be ignored.

The organically damaged brain continues to live and to function, and as long as it does, it makes continuing attempts to adapt to newly created situations. Not seldom these attempts are bizarre and bear all the features of disorganized thinking, and consequently are described as confusion. Actually, these adaptational attempts can easily be misinterpreted and their nature be unrecognized. If, for instance, an elderly psychotic urinates into a radiator instead of into his trousers, it is not necessarily an antisocial act. The attention of personnel in the environment, however, is centered on the asocial aspects of the psychotic action and its bizarreness and inconvenience, whereas its adaptational implications from the angle of the patient (*i.e.*, not to wet himself) are hardly noticed or understood. As a result, the patient encounters not encouragement but rejection.

Unfortunately, rejection rather than encouragement occurs on countless minor and major occasions in every-day life. To the older mental patient, with all his almost unsurmountable difficulties, every-day experience adds some new factors which further complicate the already complicated picture and lead to the de-

velopment of more uncertainties, more anxiety, more disorientation, and more hostility toward his environment. He is therefore in a permanent state of defense. His defenses may become evident as aggression, as withdrawal, as domination, or as humiliation. All these psychologic phenomena are, however, only surface manifestations. They are to a considerable extent caused by a chain of frustrations resulting from the patient's inner and outer conflicts, which are both organically and psychologically determined.

The type of defense described is asocial in its nature, and so estranges the elderly psychotic more and more from his environment and leads to the erection of a wall which blocks even those intellectual channels of communication which would be available if he were appropriately treated. The erected wall is predominantly of emotional origin and is directed toward an environment which does not show understanding for either his needs or his difficulties.

It is obvious that in order to penetrate this wall of defenses against the outside world, not intellectual but emotional, not logical but psychologic, methods must be used.

### C. PSYCHOLOGY AND THE ENVIRONMENT: ATTITUDE THERAPY

*Psychologic methods of communication*

In a nonpsychologically oriented environment—be it a family setting or a hospital ward—a person is evaluated by his surface manifestations. Hence, the thinking toward elderly psychotics is determined mostly by their social behavior. If psychologic exploration stops at this point, the real sphere of the patient's difficulties—his conflicts, fears, frustrations and desperation—will be missed and the psychologic wall of his defenses will be passed by. However, if the outer manifestations are approached from the point of view of discovering the inner mechanisms which are the cause of his asocial or disintegrated behavior, another picture will emerge.

The elderly psychotic has to be approached, therefore, without preconceived social evaluations. We must try to understand him in terms of his difficulties and his needs. If he makes attempts to talk, we have to listen to him patiently and try to understand, if not the content, at least the meaning of his speech. It may appear that the time factor is a serious handicap in using this method. Actually, the overwhelming majority of elderly patients do not talk, or talk very little; only a small percentage are overtalkative. Those who are ready to communicate usually require only a very reasonable amount of time. Time spent on observation and listening provides so much information about both the basic behavior and the immediate motivation of the patient's reaction that less time is necessary on subsequent occasions.

It took quite a while to find out, for instance, the motivation of Patient Co.'s behavior, as noted in the short case history to be presented. Once the basic facts were established, only a little time was necessary to discover the cause of this patient's immediate reactions, not to mention the fact that many petty irritations, minor embarrassments, or mistakes could easily be avoided and conditions

created which would reduce to a minimum the necessity of interference in his every-day ward life.

*Case 8.* **Co.,** was a man aged 60. Diagnoses: 1) Chronic brain syndrome associated with arteriosclerosis and hypertension with psychotic reaction. 2) Diabetes mellitus.

The patient had had several cerebrovascular accidents. He was occasionally noisy, cursing, disturbing, and showed highly disruptive behavior. At the beginning no attention was paid to the immediate motivations. Sedatives were routinely prescribed, often with little effect. However, when he was approached psychologically it was found that in each instance of asocial behavior the cause could be traced to the so-called minor events of every-day ward life. Among those of significant importance were such things as underwear which did not fit, eye-glasses which were not adjusted, or cuffs which were not buttoned. Instead of asking for help, the patient would start cursing the aides, who believed that they handled him very gently, felt that he was "mean", and were offended by his remarks. What the aides did not recognize was that the patient had been suffering from paraphasias and difficulties in word-finding; consequently, it had been very difficult for him to verbalize his needs, particularly if the aide had been in a rush. When he was excited, however, the patient was better able to use his remaining verbalization faculties, and poured out quite a number of words, although mostly profane. It was not difficult to demonstrate to the personnel that the patient felt threatened and neglected. As soon as the immediate reason for the patient's behavior was recognized (his wishes were, as a rule, justified and not exaggerated) and apologies made to him, he changed his attitude rather quickly and created no further difficulties. Obviously, apologies are effective only when followed by promised action.

*Thoughtful consideration*

Whether or not we succeed in full or partial understanding of the elderly psychotic, we must listen to him with thoughtful consideration. Even in the most desperate cases the information thus obtained contributes to some understanding of the patient's needs, fears, and difficulties. Even if the results achieved are meager, the patient himself will have confirmation that he is taken seriously, thus eliminating at least in part the widespread feeling among elderly psychotics that they are rejected. Superficial or impersonal encouragement helps very little, if at all, in establishing contact with the older mental patient. To treat him with sentimental neglect, with patting him on his shoulder, or giving him fair words which neither he nor anyone else believes, merely increases the feeling of rejection. Listening with thoughtful consideration and demonstrating, not pity or sorrow but understanding for his problems, creates quite a different atmosphere.

Not seldom a situation is encountered in which there is a discrepancy between the needs of the patient and those of the hospital. This may become particularly obvious in dealing with restless patients. As a rule, the more firmly contact is established previous to an acute psychotic episode and the longer the patient has been studied, the better is the knowledge of his habitual reactions. There is also a better chance to trace the immediate cause of his reaction to those environmental factors which may have acted as the initial provocative agents. Restlessness frequently follows episodes of frustration in which the elderly psychotic is made more aware of the failure of his environment to assist him in a critical situation. Any appeal to the patient's wisdom or to the necessity of following the doctor's orders usually misses the goal, since the patient is either

blocked toward, or inaccessible to logical arguments. In addition, the fact that a doctor is used as a symbol of authority may precipitate the release of aggressive mechanisms, thus complicating the situation. This increases rather than decreases the patient's anxiety.

The use of restraint or any other compulsory method ultimately has a negative influence on the elderly psychotic's further development in his relationship to his environment. What is really necessary is the development of adequate identification with the patient in order to have a deeper understanding for his needs. We must try to refrain from projecting our problems into the patient's behavior and must avoid making him responsible for managerial difficulties resulting from his restlessness.

It is therefore important to know that help for the elderly patient is not necessarily identical with what appears to be expedient to the ward personnel. Thus, for example, to force a restless patient to sit down or to use other restraining or compulsory techniques on him, may seem sensible from the point of view of an orderly ward management, but not in the eyes of a frightened patient for whom his motor hyperactivity is a part of anxiety mechanisms which gives him some kind of relief.

In case the entire situation is very obscure, or there is an accumulation of aggression, and/or there seems to be no access to the patient, it is important to be alert and observant of every phase of the development in the search for the possible intrinsic or extrinsic factors which contributed to the patient's acute manifestations. It is expedient to rely calmly upon the conviction that the disturbing behavior will subside and an opportunity will be had to approach him in a less tense atmosphere.

*The use of emotional channels*

The use of emotional channels in communication with the elderly psychotic has proved to be of great value, and is based on his preserved needs for recognition, encouragement, and acceptance as a personality. These and other emotional qualities appear to be more preserved than the intellectual functions. The reason for this phenomenon is not clear, and needs study and verification, but as things stand today better access can be obtained to an elderly psychotic through emotional and psychologic channels than by intellectual or logical means. In fact, it has been noticed that in psychotherapeutic attempts, the stage of positive transference can be relatively easily reached; and in group occupational therapy on our wards, we have seen that a negative group identification can be changed to a positive one.

In extreme cases of deterioration, the tone and general atmosphere of the environment rather than the content of our talk are of primary importance. The more a patient is deteriorated, the less sure he is of his own defenses against real or presumable dangers. Any command or compulsory action, although thought to be for his benefit, has for him quite a different psychologic implication. Commands or orders are largely experienced as threats, particularly when they are given in a domineering tone. Such a situation increases the patient's

anxiety and his resistance toward the outside world. What counteracts anxiety is reassurance, warmth and an atmosphere of acceptance and respect, even if neither his mental faculties nor his asocial behavior warrant it. It is therefore necessary for personnel to demonstrate in any available way that he is liked, that the environment is friendly to him, and that he can have his way whenever it appears not entirely contraindicated, even though his action seems to be senseless and his goals not understandable.

The elderly psychotic is very sensitive to the reaction of the environment to him. He particularly resents a domineering, overprotective, or even an indifferent attitude. He wants to be taken seriously, even when his talk is incoherent, his stream of thought confused, and his behavior very peculiar. However, an isolated friendly action does not change the patient's negative or asocial behavior; in order to achieve results an atmosphere of acceptance must be continuously maintained. If the attitude of the patient changes, and/or if we have to deal with a less damaged individual, this atmosphere of acceptance is used as a vehicle for further therapeutic attempts. Here and there he may conflict with hospital regulations, his motivation may not be recognized, and his actions may be misunderstood. Nevertheless, it is surprising how many opportunities daily life provides to demonstrate to an elderly psychotic that he also takes part in at least some of the decisions regarding his life, his habitual needs, and his desires.

If, for example, a patient requests a certain drug—be it aspirin, a laxative, or any other—or if he asks to discontinue a treatment he is receiving, an effort is made to agree with him whenever doing so seems not to be contraindicated. Some of the nurses have resented such an attitude at first; they felt that the only authority regarding medication rested with the doctor. Almost three years of experience with these tactics have, however, convinced even the most doubting among the personnel that this approach actually creates fewer difficulties with the patients regarding medication than does adherence to authoritative methods of application.

The more the elderly psychotic is intellectually preserved, the more opportunities are used to stimulate his participation in decisions regarding his needs. On open wards, not the aides, but the patients themselves take care of their personal needs and also of the needs of the ward as a community unit. However, many situations in which there are antagonistic interests create problems which cannot be solved on an individual basis. Discussion groups and particularly ward meetings under the guidance of an elected patient-chairman prove to be of great help in solving problems which affect the community as a whole. These meetings also afford an opportunity to channel conflict and aggressive behavior into more calm and realistic ways. They serve two purposes: 1) to correct unnecessary hardship or injustice, and 2) to abreact accumulated hostile feelings and thus soften or eliminate situations which stimulate paranoid reactions.

*Role of the environment*

In a hospital setting where hundreds of psychotic patients live and interact, there are many chances for asocial, aggressive and hostile manifestations. It is,

however, understood that no outburst of temper or hostile reaction is expected to occur without some external cause, even though it may be of minor significance from a logical point of view. Thus, very trivial matters, such as unbuttoned sleeves, an unaccustomed chair, a new brand of toilet paper, can provoke the patient's resentment, excitement, or even rage. These external things, per se, are not the only causes, but they serve as trigger mechanisms, in the same way as a domineering, impersonal or verbally aggressive attitude of the personnel toward the patient.

There are situations in which members of the personnel are accused by a patient, and some nurses are particularly sensitive if they are called names. Now it is understood that obscene or insulting language has to be considered either as an individual symptom to be taken into account in the psychologic evaluation of the case, or at times as a cultural pattern which can be taken up in psychotherapeutic group sessions. It is not so simple to convince some aides and nurses that reprimands will not clarify but will rather obscure the issue, and that as far as possible each created situation has to be analyzed and understood, not only on a level of surface manifestations, but from the angle of the patient's motivation. It is not enough merely to state that the patient is noisy, disturbingly aggressive, and uses obscene language, insults and threats. In each case the question "Why?" must be asked, and the attitudes of both patient and personnel have to be analyzed for a possible answer.

*Attitude therapy: a formulation*

The basis of our methods of treatment is so-called attitude therapy. This is a psycho-environmental therapeutic tool which, although centered on the patient, has two primary means of approach: 1) psychologic, and 2) environmental. The psychologic approach is based on understanding the patient's psychologic or emotional needs, by whatever method he attempts to make them known, and creating and maintaining the most favorable psychologic attitude toward the patient. The environmental approach is based on understanding the factors in the patient's environment which influence his behavior, and manipulating these factors in order to create and maintain the most favorable environment for the patient. In many ways these two aspects are closely intertwined and may even overlap. But the distinction is made here primarily for the sake of clarity in describing and analyzing the approach. Attitude therapy is comparable in some respects to Karl Menninger's milieu therapy.

Thus we establish an approach to the elderly psychotic based largely on acceptance of his personality, with all the peculiarities of his psychotic manifestations. Surface manifestations are not considered as basic symptoms. We believe that they are caused by the interaction of an organically ill personality and his environment. Every reaction is therefore motivated. To understand this motivation, we use the method of thoughtful consideration and observation in order to understand the language, or at least the meaning or symbolism, of the patient's behavior.

Attitude therapy also leads to creating an atmosphere in which the patient feels reassured and less threatened by his environment, thus facilitating the use

of those adaptational abilities that are still preserved within him and are or can be relatively well developed. Contrary to popular opinion, which is expressed in the picturesque old saying that one cannot teach an old dog new tricks, elderly psychotics have quite a range of adaptational abilities. A number of older mental patients, if appropriate conditions are created, may develop new vocational and avocational skills. The main prerequisite is a stimulating climate in which such an individual will feel encouraged. He has to live in an atmosphere in which the development of his creative abilities is considered essential. Attitude therapy contributes a great deal to the creation of such favorable conditions; it stimulates interest, helps the patient to establish better contact with reality, and provides new opportunities and goals. (For references regarding attitude therapy, and psychologic and psychiatric problems in advanced life, *see* References, Parts I and III.)

*Teamwork. Attitude of the personnel*

Attitude therapy is not the product or function of any one person's work. It is based on teamwork and on a total hospital program. Everyone who is in touch with the patient has to be a part of the team and has to contribute to the overall program.

However, there are many problems. The aides, who are actually in contact with the patient almost the whole day, usually have little if any psychiatric and psychologic training. The so-called "old-timers", in particular, have their principles of handling mental patients, which they inherited from the time of custodial care. Although they know how to take care of the physical condition of their patients, they are psychologically and intellectually opposed to any move in a new direction. Their opposition is not easy to overcome.

Among the more recently acquired personnel we find many more persons who are accessible to modern ideas, particularly if these principles are presented to them in more or less digestible form. On our geriatrics wards we have a supplementary educational half-hour program once or, if time permits, twice a week for at least one year. Aides, nurses, psychologists and social workers participate in this course and are active in discussions. Although not extensive, it helps in some way to create the foundation for attitude therapy. The results have been rather encouraging.

So far as the attitude of the personnel toward the patient is concerned one of the main problems is the basically human, but uncontrolled, unconscious, habitual patterns of behavior toward each other and toward the patient. These may result in domineering, overprotective, and authoritative tendencies, which are not any more pronounced than those existing in many families, but nevertheless are disturbing in a ward situation with elderly psychotics who are particularly sensitive to this type of attitude.

*Attitude therapy and extra-mural care*

Attitude therapy starts in the hospital but is not limited to it. It is our conviction that many of our present patients are not necessarily in need of psychia-

tric hospital care, and would be capable of existing in a family, foster home, domiciliary, or other comparatively independent setting. Some of our patients are not expected to cause any particular difficulties when transferred from the controlled environment of the hospital to a semi- or non-controlled one. However, some of the elderly psychotics do need a minimum of counselling and reassurance, especially at the beginning of their adjustment to a new environment. This counselling could be given by a psychiatrically oriented family doctor, by a social worker, by a clinical psychologist or, if available, by a psychiatrist.

Attitude therapy has to be continued after the elderly psychotic's release from the hospital. We believe that cooperation of all who are concerned with both the in-patient and out-patient care of our psychotics can contribute to a better solution of the problem of psychiatric care of elderly mental patients. It will help create room in hospitals for the expected increase in the number of elderly patients, and afford an opportunity for our present patients to live in an environment which is more appropriate and acceptable to them.

## SUMMARY

Geriatric psychoses are defined as mental processes that start and develop in advanced life. They are predominantly organic in nature.

Symptoms such as difficulties in verbalization, impairment of perceptual abilities, and disorientation in body-image or in other areas of personality concept, are discussed and their psychologic implications analyzed.

It is concluded that, in spite of the organic origin of geriatric psychoses, the overall mental picture results from the interaction of a cerebrally damaged personality with the environment; and that the behavior of an elderly psychotic, although often not understandable, is nevertheless motivated.

These observations open the door to an active psychologic approach to elderly psychotics which also takes into account the organic factors involved.

Based on these considerations, a psycho-environmental method of treatment has been developed which is called attitude therapy. The basic principles of this method are described and several aspects discussed.

The use of this method is strongly advocated.

## REFERENCES

### I. *Attitude Therapy*

1. Ginzberg, R.: Geriatric ward psychiatry, *Am. J. Psychiat.* **110:** 296–300 (Oct.) 1953.
2. Ginzberg, R.: Psychiatric and psychological techniques in the treatment and management of elderly psychotics. Third Congress Symposia and Abstracts, Internat. Assoc. Gerontology, London, 1954, p. 115.
3. Ginzberg, R.: Psychodynamics and the use of attitude therapy in geriatric psychiatry. Presented at the 111th Annual Meeting, Am. Psychiat. Assoc., Atlantic City, N. J., May 9–13, 1955.
4. Kraus, P. S.: Considerations and problems of ward care for schizophrenic patients, *Psychiatry* **17:** 283–292 (Aug.) 1954.
5. Menninger, K. A.: A Manual for Psychiatric Case Study. New York, Grune & Stratton, 1952, p. 118n.
6. Weinberg, J.: Psychiatric techniques in the treatment of older people, *in* Growing in

the Older Years, ed. by W. T. Donahue and C. Tibbitts. Ann Arbor, Univ. of Michigan Press, 1951.

II. *Disorientation of Personality Concept*

7. Bieber, I.: Pathological deformation of body image, *in* Encyclopedia of Aberrations, ed. by E. Podolsky. New York, Philosophical Library, 1953, pp. 125–131.
8. Goldstein, K.: The Organism: A Holistic Approach to Biology Derived from Pathological Data in Man. New York, American Book Co., 1939.
9. Nathanson, M.; Bergman, P. S., and Gordon, G. G.: Denial of Illness, *Arch. Neurol. & Psychiat.* **68:** 380–387 (Sept.) 1952.
10. Nielsen, J. M.: Agnosia, Apraxia, Aphasia: Their Value in Cerebral Localization, ed. 2. New York, Paul B. Hoeber, Inc., 1946.
11. Schilder, P.: Mind: Perception and Thought in Their Constructive Aspects. New York, Columbia Univ. Press, 1942.
12. Teicher, J. D.: Disorientation of body image, *in* Encyclopedia of Aberrations, ed. by E. Podolsky. New York, Philosophical Library, 1953, pp. 94–105.
13. Teitelbaum, H. A.: Psychogenic body image disturbances associated with psychogenic aphasia and agnosia, *Ibid.*, pp. 106–125.
14. Weinstein, E. A., and Kahn, R. L.: The syndrome of anosognosia, *Arch. Neurol. & Psychiat.* **64:** 772–791 (Dec.) 1950.
15. Weinstein, E. A., and Kahn, R. L.: Personality factors in denial of illness, *Arch. Neurol. & Psychiat.* **69:** 355–367 (Mar.) 1953.
16. Weinstein, E. A.; Kahn, R. L.; Sugarman, L. A., and Linn, L.: The diagnostic use of amobarbital sodium ("Amytal Sodium") in brain disease, *Am. J. Psychiat.* **109:** 889–894 (June) 1953.
17. Weinstein, E. A.; Kahn, R. L.; Sugarman, L. A., and Malitz, S.: Serial administration of the "Amytal test" for brain disease, *Arch. Neurol. & Psychiat.* **71:** 217–226 (Feb.) 1954.

III. *Geriatric Psychiatry*

18. Allen, E. B.: Functional psychoses in the aging simulating organic syndromes, *Geriatrics* **2:** 269–279 (Sept.–Oct.) 1947.
19. Allen, E. B.: Psychological orientation in geriatrics, *Geriatrics* **4:** 67–73 (Mar.–Apr.) 1949.
20. Allen, E. B.: Psychological factors that have a bearing on the aging process, *in* The Social and Biological Challenge of Our Aging Population. New York, Columbia Univ. Press, 1950, pp. 112–129.
21. Allen, E. B.: Psychiatric aspects of cerebral arteriosclerosis, *New England J. Med.* **245:** 677–684 (Nov.) 1951.
22. Allen, E. B., and Clow, H. E.: Paranoid reactions in the aging, *Geriatrics* **5:** 66–73 (Mar.–Apr.) 1950.
23. Allen, E. B., and Clow, H. E.: The psychiatrist's role in the care of the aging, *Geriatrics* **7:** 117–122 (Mar.–Apr.) 1952.
24. Allen, E. B., and Clow, H. E.: Psycho-physical compensatory adjustments in the aged, *J. Am. Geriat. Soc.* **1:** 785–793 (Nov.) 1953.
25. Busse, E. W.; Barnes, R. H.; Silverman, A. J., Shy, G. M.; Thaler, M., and Frost, L. L.: Studies of the process of aging: factors that influence the psyche of elderly persons, *Am. J. Psychiat.* **110:** 897–903 (June) 1954.
26. Clow, H. E.: A study of one hundred patients suffering from psychosis with cerebral arteriosclerosis, *Am. J. Psychiat.* **97:** 16–26 (July) 1940.
27. Clow, H. E.: The outlook for patients admitted to a mental hospital after the age of sixty, *New York State J. Med.* **48:** 2357–2363 (Nov.) 1948.
28. Clow, H. E., and Allen, E. B.: A study of depressive states in the aging, *Geriatrics* **4:** 11–17 (Jan.–Feb.) 1949.

29. Clow, H. E., and Allen, E. B.: Manifestations of psychoneuroses occurring in later life, *Geriatrics* **6:** 31–39 (Jan.–Feb.) 1951.
30. Davidson, G. M.: Passing the meridian of life, *Psychiat. Quart.* **16:** 692–706 (Oct.) 1942.
31. Donnelly, J.: Psychiatric therapy in the geriatric patient, *J. Am. Geriat. Soc.* **2:** 655–661 (Oct.) 1954.
32. Ginzberg, R.: Psychology in every-day geriatrics, *Geriatrics* **5:** 36–43 (Jan.–Feb.) 1950.
33. Ginzberg, R.: The aging and the aged: psychological and social aspects, *Individ. Psychol. Bull.* **8:** 117–130, 1950.
34. Ginzberg, R.: The negative attitude toward the elderly, *Geriatrics* **7:** 297–302 (Sept.–Oct.) 1952.
35. Ginzberg, R., and Brinegar, W. C.: Studies of appetite and of constipation in advanced life, *Am. J. Digest. Dis.* **21:** 267–272 (Sept.) 1954.
36. Ginzberg, R.: Sleep and sleep disturbance in geriatric psychiatry, *J. Am. Geriat. Soc.* **3:** 493–511 (July) 1955.
37. Ginzberg, R., and Jackson, B. F.: Problems of communication in geriatric psychiatry (in preparation).
38. Goldfarb, A. I.: Psychodynamics of the therapeutic situation with aged patients. Third Congress Symposia and Abstracts, Internat. Assoc. Gerontology, London, 1954, pp. 115–116.
39. Goldfarb, A. I., and Turner, H.: Psychotherapy of aged persons, *Am. J. Psychiat.* **109:** 916–921 (June) 1953.
40. Grotjahn, M.: Psychotherapy with the elderly—Theoretical aspects. Presented at the 110th Annual Meeting Am. Psychiat. Assoc., St. Louis, Mo., 1954 (Abstr. in program, p. 43).
41. Hollender, M. H.: Psychotherapy with the elderly—Technical aspects. Presented at the 110th Annual Meeting Am. Psychiat. Assoc., St. Louis, Mo., 1954 (Abstr. in program, p. 44).
42. Kaplan, O. J., ed.: Mental Disorders in Later Years. Stanford, Calif., Stanford University Press, 1945.
43. Luce, R. A., and Rothschild, D.: The correlation of electroencephalographic and clinical observations in psychiatric patients over 65, *J. Gerontology* **8:** 167–172 (Apr.) 1953.
44. Madden, J. J.; Luhan, J. A.; Kaplan, L. A., and Manfredi, H. M.: Nondementing psychoses in older persons, *J.A.M.A.* **150:** 1567–1570 (Dec.) 1952.
45. Malamud, W.: The psychiatric aspects of geriatrics, *J. Iowa State Med. Soc.* **43:** 461–466 (Nov.) 1953.
46. Malamud, W., and Lowenberg, K.: Alzheimer's disease, *Arch. Neurol. & Psychiat.* **21:** 805–827 (Apr.) 1929.
47. Malamud, W.; Sands, S. L., and Malamud, I. T.: Involutional psychoses, *Psychosom. Med.* **3:** 410–426 (Oct.) 1941.
48. Malamud, W.; Sands, S. L.; Malamud, I. T., and Powers, P. J. P.: Involutional psychoses, *Am. J. Psychiat.* **105:** 567–572 (Feb.) 1949.
49. McGraw, R. B.: Recoverable or temporary mental disturbances in the elderly, *J. Gerontology* **4:** 234–238 (July) 1949.
50. Meerloo, J. A. M.: Psychotherapy with the elderly—Transference aspects. Presented at the 110th Annual Meeting, Am. Psychiat. Assoc., St. Louis, Mo., 1954 (Abstr. in program, p. 43).
51. Rechtschaffen, A.; Atkinson, S., and Freeman, J. G.: An intensive treatment program for State Hospital geriatric patients, *Geriatrics*, **9:** 28–34 (Jan.) 1954.
52. Rothschild, D.: Pathological changes in senile psychoses and their psychobiological significance, *Am. J. Psychiat.* **93:** 757 (Jan.) 1937.

53. Rothschild, D.: The clinical differentiation of senile and arteriosclerotic psychoses, *Am. J. Psychiat.* **98**: 324–333 (Nov.) 1941.
54. Rothschild, D.: Neuropathologic changes in arteriosclerotic psychoses and their psychiatric significance, *Arch. Neurol. & Psychiat.* **48**: 417–436 (Sept.) 1942.
55. Rothschild, D.: The role of the premorbid personality in arteriosclerotic psychoses, *Am. J. Psychiat.* **100**: 501–505 (Jan.) 1944.
56. Rothschild, D., and Sharp, M. L.: The origin of senile psychoses: neuropathologic factors and factors of a more personal nature, *Dis. Nerv. System* **2**: 49 (Feb.) 1941.
57. Sands, S. L., and Rothschild, D.: Sociopsychiatric foundations for a theory of the reactions to aging, *J. Nerv. & Ment. Dis.* **116**: 233–241 (Sept.) 1952.
58. Silverman, A. J.; Busse, E. W.; Barnes, R.; Frost, L., and Thaler, M.: Studies on the process of aging: physiologic influences on psychic functioning in elderly people, *Geriatrics* **8**: 370–376 (July) 1953.
59. Tilkin, L.: Clinical evaluation of psychiatric disorders in the aged, *Geriatrics* **7**: 56–58 (Jan.–Feb.) 1952.
60. Weil, J.: Special services for the senile in a home for the aged, *Geriatrics* **9**: 443–445 (Sept.) 1954.

# PHYSICAL MEDICINE AND REHABILITATION ON A GERIATRIC WARD*

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Our efforts in the Physical Medicine and Rehabilitation Service (PMRS) have demonstrated that planned integrated programs of convalescent care, stressing activity as an adjunct to definitive treatment, can reduce the period of hospitalization, offset the deconditioning phenomena, and prevent the harmful psychologic after-effects of extended periods of hospitalization.

There has always been a considerable difference of opinion as to the definition of "the aged." Many factors influence this definition. Senescence has been defined as the normal process of aging. Senility covers variations in this normal process, which lead to the production of abnormal symptoms.

In this psychiatric set-up among the aged, certain characteristics make the elderly patient less adjustable to his surroundings. In addition, frustration, discouragement, unhappiness, and fear are real hazards to these patients. Frequently we find that psychologic and emotional disturbances overshadow the physical disabilities which may be present. The psychologic changes which influence the response to treatment must be considered.

## THE PROCESSES OF AGING

To understand the geriatric patient, we must, of necessity, realize that there are both physical and mental processes in the aged. They include:

1. A gradual tissue desiccation.
2. A retardation of cell division, capacity for cell growth and tissue repair.
3. A gradual retardation in the rate of tissue oxidation.
4. Cellular atrophy, and degeneration; increased cell pigmentation and fatty infiltration.
5. Decreased speed, strength, and endurance of skeletal neuromuscular reactions.
6. Decreased strength of the skeletal muscles.
7. Progressive degeneration and atrophy of the central nervous system; impaired vision, hearing, attention, memory, and mental endurance.

With all this in mind, when approaching the rehabilitation of the geriatric patient, we should realize the necessity for accurate evaluation of his physical as well as his mental processes, so that we do not present a program which will further his frustration and retard his rehabilitation. To determine the capacities of the geriatric patient, we must call upon the physician, the psychiatrist, the

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Physical Medicine and Rehabilitation Service, and the psychologist—a team which will determine the residual capabilities of the individual and give us a lead in prescribing the general objective of treatment.

## THERAPEUTIC PROGRAMS

### *On the ward*

In August 1952 we started an on-the-ward activity program for a group of patients in the geriatric wards in one building. The patient load numbered approximately 163. Two therapists were detailed from our clinics to this particular building. One was an occupational therapist (female), and the other a corrective therapist (male). Their objective was the motivation of the patients known as "sitters," who had been on the wards for years. Although not all modalities of the PMRS were employed, attention is called to the fact that both the occupational and the corrective therapist were used on the ward itself. They became members of a team which consisted of the doctor, nurse, therapists, and aides. These two therapists succeeded in establishing rapport with a considerable number of patients in this ward of forgotten men. Four months later, in November 1952, of the 163 patients, 83 or approximately 50 per cent were being treated by the PMRS[1] from a geriatric ward which a year before supplied only 9 patients of the 163 to the occupational therapy clinic. The ward program started on an individual basis and gradually became a group project. It was necessary to include in the group some of the less psychotic patients, who assisted in motivating their fellows. The reaction to the therapists could best be described by saying that the patients became motivated with a sense of responsibility, pride of achievement, and the desire to associate with a group doing something worthwhile. When the therapists attempted to establish rapport, they found many patients were unable to express themselves verbally; yet a distinct reaction of the entire ward was noticeable in the change of attitude from indifference and apathy to an awareness of surroundings and a definite response to the therapists.

As the program progressed, it became necessary to classify and re-evaluate the patients' potentials. This was carried out by the Geriatric Board; the therapists and the executive assistant of PMRS as coordinator of the program, took an active part. A clearer picture of the integrated program began to develop. It became apparent that it was necessary to place some of the formerly withdrawn and less active patients, who responded quickly to the therapy, to more active wards where they were enrolled in a more intensive PMRS program.

We were fortunate in our selection of the occupational therapist, who had the knack of directing the activities of the patients through relationship to herself, then to group relationships with other patients, on an unspoken level. Although the response of patient to therapist was intensely personal, at the same time she was able to build this relationship—a new and critical one—by indirection. Her business was to build up the patient's confidence to a point where he would be willing to accept psychotherapy. The corrective therapist, on the other hand,

[1] Physical Medicine and Rehabilitation Service.

found it a little harder to establish rapport with the "sitting population" on the ward. The relationships started with the simplest forms of teaching the ADL[2] and an interest in personal hygiene. Some patients required the teaching of functional ambulation, and the conditioning and reconditioning of muscular functions. The activity increased in tempo as this therapist spent his entire time with the patients on the ward. He also attended their recreational activities. Later, exercise routines were set up on the ward; however, we soon found that the typical exercises known as calisthenics were too strenuous. The job became one of finding some activity within the confines of the ward. For example, all electrical floor polishers were removed; blocks were fabricated with a handle and hand-polishing was the order of the day. Patients who were "sitters" vied with each other for the privilege of polishing certain portions of the floor.

Difficulties encountered in the work of these two therapists included such limitations as poor eyesight, other physical impairments, short attention span, and changing interests. Through planning and timing of activities, some old skills were awakened and new ones introduced. Again, these activities were necessarily graduated and this phase of the program was adapted to individual needs.

*In the clinic*

Unfortunately, this ward program had to be terminated because of lack of personnel to conduct an on-the-ward clinic. It was necessary to recall the two therapists into the general clinics of the hospital. The following plan was then established:

1. We introduced the elderly patients to other modalities of the PMRS, using their developed resources to the fullest extent.

2. We converted the nearest general occupational therapy clinic for use of the geriatric patients so that those who had already started the on-the-ward program could be continued in the clinic program.

The occupational therapist who was in charge of the ward program was placed in charge of the general clinic where all geriatric patients would go. In this way, we were able to pick up where we left off from the ward geriatric program.

As the geriatric patient improved, we were concerned in preparing him for placement at the highest level of his adjustment potential. When other resources for placement were not available, we used the Rehabilitation Board in considering the feasibility of placing selected patients in a domiciliary setting.

## CONCLUSIONS

Elderly patients can have old interests revived and new interests taught if sufficient concentration is applied. They no longer lack an outlet, even if they are forgotten by friends and relatives. They can become interested in their environment, and take part in directed activities, ranging from a ward dance program to group discussions on daily topics.

[2] Activities of Daily Living.

The utmost care should be exercised in evaluating the aging mental patient who has let the world of reality slip by him because of his mental quirks or his physical disabilities, and such an appraisal should be carried out by the entire team. Because individualized attention must of necessity be limited, a quick thorough classification should be made, based on the emotional and mental needs of the patient. This permits planning of the specialized program which best meets the patient's needs, thus enabling him to achieve some degree of success within his capabilities.

# THE INTEGRATION OF SOCIAL SERVICE ACTIVITIES AND THE POST-HOSPITAL ADJUSTMENT OF THE AGING*

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It was only a short while ago that the senile and the psychotic aged were considered hopeless and helpless. Today, physicians estimate that as many as half, or even more, of their patients have physical ailments that are wholly or in part due to mental or emotional difficulties. With the general aging of the population, the incidence of such afflictions will probably be even greater. We know that an illness due to emotional difficulties is no less real and disabling to the patient than one with an organic basis, for the concept of emotional disturbances as a basis for physical symptoms is nothing new in the field of medicine. The re-emergence of psychosomatic medicine began about forty years ago—although it may be safe to assert that critical focus on its application to the aging and the aged began only in the last few years.

## SOCIAL SERVICES

With the growth of knowledge in the physical sciences and the evolvement of psychogenic concepts, present-day hospital care has increased in complexity. The aged person not only needs more hospital and nursing care, but stays longer in the hospital.

Today, about 4 to 6 per cent of those over 65 live in various institutions:

152,000 in homes for the aged
65,000 in nursing homes
141,000 in mental hospitals
26,000 in other hospitals

for an approximate total of 385,000. Too, the rate of mental hospital admissions for persons over 65 has been steadily increasing. To date there is no evidence to demonstrate a significant decrease in this trend, although some hope might be indicated through continuous observation and experiment. With the number of people who are over 65 increasing significantly each year, the subsequent service demands rising out of this changing population structure call for a complete mobilization of community, state and national resources.

Consequently, new and challenging areas of service by public health and welfare agencies have recently evolved. One example is the group work consultant role pioneered and developed by the Hennepin County Welfare Board (Minneapolis, Minnesota) and which gradually has been accepted as a service by

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other welfare agencies. The basis for many of the comments made here has evolved from this group work consultant position of the Hennepin County Welfare Board.

Social services through public, quasi-public or privately sponsored agencies or organizations have arisen because of this realization that the needs of man cannot be dealt with merely through meeting his economic wants. Any means taken to assist people to remain productive, useful and creative is a social service. Any method to maintain the dignity of the individual is a social service. It follows that all efforts on behalf of older adults should be geared to the utilization of their remaining abilities so as to contribute to the well-being of self and others as a continuing phase of life.

All of these services, directed toward mobilizing the capacities of the *individual* and the resources in the *community* can be given in many ways: referral to existing community resources, developing new resources, stimulating community education toward action, and marshalling and coordinating community efforts. Inter-agency consultation and dissemination of specific knowledge based on observation, empirical experience and other forms of research are part of these services. The program involves working with all people—regardless of age—so as not only to prevent, within the limitations of existing knowledge, those problems which necessitate so many of these services but also actively to promote well-being through these efforts. The goal of social service is to develop an atmosphere which recognizes and acts to meet *all* of these basic needs of people at all ages—good shelter, food and clothing; employment based on ability; adequate health facilities and opportunity to use them with dignity; and educational, recreational, social and spiritual opportunities to meet the desire for creativity, productivity, usefulness and sheer fun.

Mental well-being seems to be related to these outlets for companionship, usefulness, or creativity and depends, at least in part, on social communication. Yet, the monotony and lack of stimulation from outside contacts in rural areas, and the intense competition, anonymity and perhaps excess of passive entertainment in urban areas make positive social relations difficult for many old people. The general community attitude toward the aged is still rampant with the stereotype of helpless dependency. Again, there is a lack of awareness in understanding the breadth of people that are classified as old. Consequently, the quality of social services is tempered by the climate of the community not only toward the former patient, but also the aged. As mentioned earlier, community education thus becomes an important function of social service. All too often relatives and friends are crucial blocks in the return of the aged from hospitals to another type of living arrangement.

## THE SOCIAL GROUP

More and more we are recognizing that our modern civilization with its complex changing cultures plays an exceedingly important role in the etiology of mental illness. This can usually be traced to a lack of individual worth and dignity which invariably may be attained through some type of social group. The use of

this type of group on behalf of the senescent, the senile, the normal and the psychotic has in the past too often fallen into desuetude without a full blown chance. Yet, worthwhile and valuable contributions are now being made with each of these different groups of the aging.

Experiments such as those at The Veterans Administration Hospital in Tomah, Wisconsin, at The State Hospital in Fergus Falls, Minnesota, or at The Montefiore Home for The Aged in Cleveland, Ohio, are now demonstrating the inherent potential in maintaining contact with the environment through group activity.

The basic principle of doing "with" people is never compromised, although it may be modified to a degree, depending upon the functional capacity of the elderly, which may be described in terms such as physiologic age, psychologic age, learning age. What should be stressed is that in serving our aging population, the importance of psychosocial factors should not be underestimated. This does not negate the importance of the irreversibility of brain damage (at least in our present state of biologic knowledge) but rather makes it most imperative that we prescind from it the contributing emotional factors which might have been avoided or at least alleviated. Over-rapid senescence, which leads toward senility or degenerative diseases, may be controlled in some instances by an environment in which older people can meet their own needs in their own way. For example, preliminary evidence based on interviews and questionnaires suggests there has not been a single committment to a mental hospital from among the approximate 6,000 membership of old adult groups in Minneapolis from 1950 to 1954.

Older adults residing in congregate living centers have, all too often, developed "institutionalitis." They are the victims of having *everything* or *nothing* done for them with a deleterious lack of opportunities to do anything for themselves. Loneliness and lack of interests are found, regardless of place of residence.

## SPECIFIC NEEDS OF OLD ADULTS

In order to gain better understanding of the services we have to offer, we must know more about the people who should be served effectively and efficiently.

The needs of old adults are the same as for anyone at any age, but they have attained greater importance for the members of the older age group, as their opportunities for social communication have diminished. In addition, those residing in mental hospitals may be less well than others living outside the hospital, and they do not come from an homogeneous group. These older adults need opportunities for:

Companionship
Fun
A sense of belonging
Developing new interests and skills
Retaining or renewing old skills
Stimulation of the desire to learn
Continuation of curiosity
Adjusting to a changing environment

Maintenance or development of status
A feeling of being needed and useful.

Numerous changes of role occur in old age, many being social in origin, such as the establishment of a "legal old age" for various types of accrued benefits and services and others resulting from chronic ailments or cerebral damage. Many old people manage by themselves to reorganize their lives by redefining their needs or by finding new satisfactions through new roles and activities.

When losses are permanent, compensations and mitigations must be found; if the losses are reversible, an appropriate rehabilitative program must be undertaken.

Joint planning is the first step in overcoming these difficulties. Effective use of social services is dependent upon the environment of which it is a part. Further, it must take into consideration the environmental stresses particularly affecting old people that demand adjustments to:

Some degree of invalidism
Death of the spouse
Loss of employment and reduced income
Narrowing of social contacts
Loss of previous useful activity
New living arrangements
Strange people.

There is a new affiliation with his peers along with the tacit submission of now being old, the general loss of status and the subsequent difficulties of learning to participate in the new group. Four factors are usually associated, to various degrees, with positive adjustment in old age:

1. Good health
2. Pleasant social and emotional relations with friends and family
3. Hobbies, outside interests or useful work
4. The quiet, privacy and independence of action provided by living in one's own home or home-substitute.

## POST-HOSPITAL PLANNING

Both the social structure of the hospital and the concomitant community resources provide the clue to post-hospital adjustment of the aging. These community resources include challenging new arrangements such as foster-home care, home medical care, apartment housing, social clubs, residence clubs, pleasant homes for the aged, and nursing homes. Although not universally recognized or practiced as such, they have emerged as social agencies with positive, desirable standards of care.

An examination of the names of several present-day community resources hints at some of the areas of service we should develop further: County Home for the Aged and Indigent, Home for Aged and Respectable Bachelors and Widowers, Boys and Girls of Yesterday, The Last Mile Club, Society for the Relief of Respectable Aged Women, Indigent Widows and Single Women's Home Society, Ivy Haven, Sunset Home and the County Almshouse. Compare these names to those like the Live Embers or the Fellowship Society.

In planning toward a more satisfying life for the aging in their post-hospital adjustment, we must once again go back to the role of the hospital. Hospital services must become more bold in determining which old patients can benefit from treatment and which patients may be released from its jursidiction. To illustrate, it was only a few short years ago that the senile were left to vegetate in complete hopelessness. Today, we recognize the possibility of the multiplicity of mental changes brought about by biologic change and emotional stresses. We have learned that any "redevelopment" program must take into account the original personality patterns of the patients and the fact that many of the characteristics of the senile are related to some childhood concepts. Yet, senility is *not* childhood all over again, for the aged senile person does have a reservoir of lifetime experience which is not found in the child. Even so, the revival of latent childhood interests may be encouraged and transformed through positive motivation. Orthopsychiatry with the aging is in a state of flux.

At least in some hospitals, an old adult may look upon himself as an old person rather than as a mental patient. The hospital may be regarded as a community rather than an "insane asylum." If hospital experience is a major procedure in establishing identity within the community, then special grouping of the aged (*e.g.*, former patients) may be of value for some people. However, the principle of fitting into the most functional group the community has to offer would still be paramount. Specific clubs, for example, could bridge the gap between hospital and community and should facilitate adjustment to society.

Regardless of the type of service offered, the patient should feel wanted. Insofar as he can become an active member in whatever environment he is placed, he benefits not only himself but the people around him. Belonging to a group is a natural and accepted pattern of living, yet many old people no longer have any group as part of their pattern of everyday living. For example, several years ago a competent supervisor in a large Minneapolis industry was retired at age 65 with adequate financial benefits. After his compulsory retirement he had several "breakdowns" within the next two years. It was only when he became acquainted with a group of old adults who were also retired that he was able to find new companions. They, in turn, motivated him toward a renewed zest for life. Here, fortunately, a "preventative" program was operating through a senior adult club. Thus, prevention and rehabilitation become synonymous in action.

It is important for former patients to be able to participate in normal social groups as well as in ex-patients' therapy organizations. A major challenge is posed by older people who have been hospitalized and then returned to the community to lead lonely lives. One 68-year-old widower had attempted to join a church group, but felt out of place, since almost everyone present came in couples or families. He admitted to an absolute lack of social life. A woman, aged 75 lived alone in a hotel; knitting was her only occupation. Both became interested in an older adult club and have since been faithful and cheerful members. It is conceivable that other social groups could have met their needs, also.

The social group—whether it be through the immediate family, the foster home, boarding home, home for the aged, nursing home or friends and acquaintances outside the place of residence—is a vital tool in assisting older people to

maintain their feelings of usefulness, status and belonging. It is a means whereby they remain contributing members of society, are restored to some degree of capacity, and are assisted to full restoration of social capabilities. It is a resource which should be utilized to its full potential. With the cooperation of individuals, organizations and the community as a whole, social rehabilitation and social maintenance opportunities will be immeasurably enhanced.

One additional ingredient is necessary. The focus here has been on the old adult. Social services have been delineated as a means to make life more satisfying to the aged; but these services are only as adequate as the procedures which are used *and* the people who use them. The knowledge of how to use what is available, when to modify what exists, how to develop new resources, and when to coordinate and marshal these resources, is dependent upon skilled and understanding workers as well as wise organization.

Integration of community agency services *within* mental hospital services is a part of the process of preparing for community life again. The concept of the separation of mental hospital and community services should be seriously examined, for the service should be continuous. Integration would evoke the maximum potential of the individual being helped. It implies a coordination of all community agencies and a knowledge and utilization of these existing resources through an over-all responsible, wise and intelligent administration.

Throughout all efforts we must have before us a positive approach of ability, for old people (including psychotics) have a wide range of adaptation. The institution is now realizing to a greater degree than ever before the extent of this adaptability. As a consequence, the institution may perhaps be getting ahead of the community. It is only when hospital and community services are one continuous comprehensive whole that social services will be most effective in the post-hospital adjustment of the aged.

# THE USE OF NICOTINIC ALCOHOL IN STATE HOSPITAL GERIATRIC PATIENTS*

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Due to the pressure of an ever increasing admission rate of older patients into mental hospitals, necessity demands the investigation of every practicable method of treatment proposed in the literature, or suggested by our own experience. Because there is a mounting literature on nicotinic acid, we became interested in this drug. However, we found no reports of adequately controlled studies.

Gregory (1) feels that nicotinic acid is more useful prophylactically than for treatment alone, and states that "the prognosis is best in those patients in whom the psychosis is of recent and fairly rapid onset." He also feels that the prognosis is better in those patients with a diagnosis of cerebral arteriosclerosis than in those with a diagnosis of senile psychosis. The question might well be raised whether the arteriosclerotic patients, regardless of medication, would not have shown the greater improvement. It is the opinion of Caldwell and Harwick (2) and of Lehmann (3) that patients with either diagnosis are equally helped with nicotinic-acid therapy.

Levy (4), in his review of the literature, further explores the use of nicotinic acid as well as other pharmaceuticals alleged to have a beneficial effect upon the aged patient. He found that there was some improvement in the general activity level and mood (measured by the revised Malamud-Sands Worcester Rating Scale) with oral nicotinic acid, 300 mg. daily given for thirty days. He noted, however, a greater overall improvement with an elixir of pentylenetetrazol (Metrazol) and nicotinic acid.

We chose to investigate the effects of nicotinic alcohol (Roniacol)[1] because, according to Furtado *et al.* (5), it has "the same effect and mechanisms as nicotinic acid as a vasodilator, but with a longer duration of action." Moreover, its action was said to be characterized by a lack of gastric irritability (except in very large doses), an ease of assimilability, and few undesirable side effects.

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† We are indebted to W. L. Patterson, M.D., Superintendent, for authorizing the project; the Fergus Falls State Hospital Research Staff for setting up the original research design; R. J. Lucero, Director of Research, for reading the manuscript; A. Foss, Research Clerk, for compiling most of the data; N. Helander, R.N., M. Jackson, R.N., and all the psychiatric aides who made most of the evaluations.

[1]We are indebted to Hoffmann-La Roche, Inc., for supplying the nicotinic alcohol (Roniacol) and the placebo used in the experiment. The nicotinic alcohol was supplied in the form of Roniacol Elixir, which contains 8 per cent alcohol, 26 per cent sucrose U.S.P., and 50 mg. of Roniacol per dram. The pH of the elixir is 4.7. The placebo was the same solution as the elixir, without the nicotinic alcohol. Both preparations had a pleasing port-wine flavor.

*Basic hypothesis.* Nicotinic alcohol has a more beneficial effect upon the behavior, memory and orientation of geriatric patients than could be expected from increased attention and suggestion alone.

## EXPERIMENTAL DESIGN

The type of controlled experiment we chose to carry out included three groups of patients, receiving: 1) the drug, 2) a placebo identical in taste and appearance to the drug, and 3) neither drug nor placebo. Since we were dealing with patients in the 63–88 year age group, we thought that a liquid would be preferable to tablets as the vehicle for administration, and therefore used Roniacol Elixir.[1] All three groups of patients were in the same environment. In this way it was largely possible to control the effect of direct suggestion.

Recreation and occupational therapy on the wards remained unchanged. These are the core of our treatment program, providing "environment therapy" which leads to "attitude therapy," as Ginzberg (6) calls the hopeful expectant attitude to be found in an alert and intelligent personnel.

In spite of good environment and attitude therapy and in spite of our enviable discharge rate at this hospital (7), so long as we deal with illness in any form, we feel the challenge to experiment when promising drugs or methods for the amelioration of disease are presented.

Originally 96 geriatric patients (48 men and 48 women) were selected for this study. These patients resided in the geriatric section of the hospital, which consists of two buildings—GM (Geriatrics, men) and GW (Geriatrics, women). Each has a total bed capacity of 156. Long-term as well as short-term patients were selected, and diagnoses fell into the following three categories: 1) Chronic brain syndrome associated with senile brain disease, 2) Chronic brain syndrome associated with senile brain disease with psychotic reaction, and 3) Chronic brain syndrome with circulatory disturbance with cerebral artertiosclerosis. Under the first two categories we included disorders which would formerly have been listed as senile psychosis, simple deterioration and senile psychosis, paranoid type. Of the 68 patients in GW and the 70 patients in GM who were eligible by diagnosis for inclusion in this study, 42 were dropped for the following reasons: 1) physical disabilities, such as blindness and deafness which would have interfered with the planned evaluations, 2) physical illnesses, and 3) imminent discharge from the hospital. The remaining 48 patients on each ward were carefully matched into three equal groups and to each group was randomly assigned a letter—A, B, or C. All patients in the three groups were equated for age, diagnosis, and behavioral average. The matching was carried out as follows: The first appearing patient in the group later designated as A was equated with the first appearing patient in the groups later designated as B and C, and this procedure was continued until all patients in group A were matched serially with all patients in Groups B and C. Behavioral averages were obtained from ratings made by psychiatric aides in the eleven areas represented on the L-M Fergus Falls Behavior Rating Scale (8, 9). On this scale the most socially deviant type of behavior receives a score of 1.0 and the least socially deviant type of behavior receives a score of 5.0. The behavior averages for the three experimental groups on the female ward were: Group A, 2.97; Group B, 2.90; Group C, 2.91. The behavior averages for the three experimental groups on the male ward were: Group A, 3.00; Group B, 3.02; Group C, 3.01. The averages for the groups included in the experiment coincided closely with the general behavior averages on each ward. Thus, there was no essential difference between the groups selected on each of the two wards.

The average age for the experimental groups on the female ward were: Group A, 77.12 years; Group B, 77.31 years; Group C, 77.31 years. The average age for the three experimental groups on the male Geriatric ward were: Group A, 76.87 years; Group B, 77.50 years; Group C, 76.87 years. These age differences were not significant.

The average length of hospitalization for the female experimental group was 3.70 years. The average length of hospitalization for the male experimental group was 4.93 years. Thus it is evident that the experimental groups were not composed primarily of recently admitted patients.

Each patient in the experimental groups was rated on the L-M Fergus Falls Behavior Rating Scale once a week for an eight-week period. *All* patients on both wards were rated for the two weeks preceding the experiment proper and for the two weeks immediately following the experiment. Behavior of patients in the experimental groups corresponded rather closely with the behavior of all patients on both wards.

Each patient was also given the Geriatric Mental Examination (10) immediately before the experiment began and again when the experiment ended. This test can be administered by psychiatric aides and nurses and was specificially designed to measure mental changes in the older patients. The scale is composed of three sub-tests, each having twenty items, so that a perfect score on each test would be 20; the first sub-test is designed to test orientation, the second "verbal memory," and the third "visual memory." The test was administered to the female patients by trained female psychiatric aides and nurses and to the male patients by male psychiatric aides.

It was decided, in order to keep the experiment as "pure" as possible, that no therapeutic techniques that would result in possible gross changes in behavior (such as electroshock therapy and group psychotherapy) would be applied to any of the patients in the experimental groups for a period of two months preceding the experiment and for the duration of the experiment.

The weight, blood pressure, pulse and respiration were noted for each patient each week for a period of seven weeks, starting one week prior to the administration of the drug and continuing for two weeks after the drug was discontinued.

No one except the hospital pharmacist knew which group was receiving the placebo and which group was receiving the drug. However, as was later revealed, Group A received the placebo, Group B received the nicotinic alcohol (Roniacol), and Group C received no medication of any kind.

Although every effort was made to select a stable population, 9 patients from the female wards had to be dropped from the study during the course of the experiment. One patient left the hospital during the first week of the experiment and 2 others refused to take the medication. Since these 2 patients were in Group B and were serially matched with 2 other patients in Groups A and C, the 2 patients in the other groups had to be dropped also. This reduced the experimental groups in the female ward to three, containing 13 patients each, or a total of 39 patients as against the original 48 patients which were continued in the male ward.

To avoid any side reactions such as gastric irritability, nausea, diarrhea, extreme tingling and flushing, it was decided to increase the dosage of the drug gradually, so that during the first week of the experiment, each patient in the drug groups received 1 teaspoonful, or 50 mg., three times a day after meals for three days. On the fourth day this was increased to 2 teaspoonfuls, or 100 mg., three times daily. On the eighth day, or the beginning of the second week, the dosage was increased to 150 mg. three times daily or 450 mg. a day. This was the maximum dosage used in this experiment and it was continued for a period of twenty-one days. The placebo was administered in exactly the same manner as the drug.

After the drug had been increased to 450 mg., it was noted that a few of the patients in both the B groups experienced flushing after taking the medication

and complained of slight nausea and diarrhea. The suspicions of the personnel were then aroused as to which groups were receiving the drug and which the placebo.

The following questions were raised:

1. Was the difference between the groups ever great enough to be of significance? The analysis of variance technique described in Edwards (11) was used to answer this question.

2. Did the groups vary at any time with respect to their pre-experimental means? If so, this question could be answered by using the technique known as the significance of a difference in the means of related measures described by Lindquist (12).

## RESULTS

*Behavior averages.* There were no significant differences between the groups at any time, as may be seen from Table 1. Any differences between the groups receiving the drug and the other groups were so small that they could be accounted for by chance.

*Mental examination.* There were no significant differences between the groups nor were there any within the groups at any time.

*Blood pressure readings.* Though various physiologic measurements were made throughout the experiment the only one which showed changes of sufficient magnitude to indicate a trend was that of the blood pressure. From Table 3 it may be seen that *all three* groups showed a tendency toward diminishing blood pressures from the beginning of the experiment to the end. The blood pressures had not returned to their pre-experimental levels two weeks after stopping the medication. Also it may be seen that there were no differences of any importance among the three groups. It must therefore be concluded that nicotinic alcohol,

TABLE 1

*Behavior Averages*

| | *Females* | | | *Males* | | |
|---|---|---|---|---|---|---|
| | Groups | | | Groups | | |
| | A | B | C | A | B | C |
| 2 weeks, pre-experimental | 3.39 | 2.90 | 2.93 | 3.01 | 3.03 | 2.01 |
| 1 week, pre-experimental | 2.87 | 2.91 | 2.81 | 3.21 | 3.01 | 3.07 |
| 1st week of experiment | 3.09 | 2.84 | 2.56 | 3.07 | 3.05 | 2.76 |
| 2nd week of experiment | 2.86 | 2.68 | 2.70 | 3.68 | 2.95 | 2.80 |
| 3rd week of experiment | 2.83 | 2.67 | 2.72 | 3.01 | 2.77 | 2.76 |
| 4th week of experiment | 2.81 | 2.43 | 2.77 | 3.05 | 3.03 | 2.95 |
| 1 week, post-experimental | 2.86 | 2.87 | 2.68 | 3.04 | 3.07 | 2.82 |
| 2 weeks, post-experimental | 2.80 | 2.49 | 2.49 | 2.79 | 2.77 | 2.59 |

A. Group taking placebo.
B. Group taking Roniacol.
C. Group receiving nothing except an equal amount of attention.

TABLE 2
*Geriatric Mental Examination*

| | I | | | II | | | III | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | A | B | C | A | B | C | A | B | C |
| *Females* | | | | | | | | | | | | |
| Pre-experiment | 6.18 | 8.65 | 11.31 | 3.61 | 6.08 | 11.08 | 4.69 | 7.46 | 8.08 | 14.48 | 22.19 | 30.46 |
| Post-experiment | 7.35 | 9.04 | 11.31 | 5.23 | 6.15 | 7.31 | 5.23 | 7.38 | 7.54 | 17.80 | 22.56 | 26.15 |
| *Males* | | | | | | | | | | | | |
| Pre-experiment | 11.97 | 10.25 | 9.03 | 5.94 | 4.62 | 3.75 | 6.12 | 5.38 | 5.12 | 24.03 | 20.25 | 17.91 |
| Post-experiment | 12.28 | 10.62 | 9.53 | 6.25 | 5.00 | 3.56 | 6.44 | 5.19 | 4.56 | 24.97 | 20.81 | 17.66 |

I. Orientation A.
II. Verbal memory. B. } See footnote to Table 1.
III. Visual memory. C.

TABLE 3
*Blood Pressures (mm. Hg)*

Males*

| | A† | B | C |
|---|---|---|---|
| Pre-experimental | 169/91 | 164/77 | 164/82 |
| Last day of drug or placebo therapy | 150/82 | 146/69 | 149/78 |
| Two weeks after end of experiment | 146/82 | 140/74 | 139/75 |

* Blood pressures of patients on the female ward were essentially identical but are not included here, as they were taken by two different investigators and were therefore not considered sufficiently reliable.

† See footnote to Table 1.

used in the dosage and over the period of time concerned in this study, did not have any more significant effect upon the blood pressure than did the placebo (alcoholic elixir) or even the entire absence of medication. It is further hypothesized that one factor which can explain the foregoing data is the increasing relaxation which ensues when people have their blood pressures taken over a fairly protracted length of time. Future investigators of blood pressure changes might be interested in such differences.

## SUMMARY

At Fergus Falls State Hospital 87 geriatric patients (48 men and 39 women) were selected as subjects for this study. The 48 men were serially matched for age, diagnosis and behavioral average in three equal groups. The 39 women were matched by the same procedure. All three groups were subject to the same biosocial environment. One group was given nicotinic alcohol for a period of four weeks, a second group was given a comparable placebo, and a third group received nothing. The patients were evaluated over a period extending from two weeks prior to the administration of the medication to two weeks after cessation.

## CONCLUSIONS

1. Nicotinic alcohol administered under the conditions described in this study does not affect the overt behavior, the orientation, or the verbal or visual memory of elderly psychotic patients.

2. Repetition of blood pressure readings in elderly psychotic patients makes for a relaxation which establishes a trend toward lower blood pressures in the examining situation.

## REFERENCES

1. Gregory, I.: Nicotinic acid therapy in psychoses of senility, *Am. J. Psychiat.* **108**: 888, 1952.
2. Caldwell, W. A., and Harwick, S. W.: Recent progress in psychiatry: vitamin deficiency and psychoses, *J. Ment. Sc.* **90:** 95, 1944.
3. Lehmann, H. E.: The Biology of Mental Health and Disease. New York, Paul B. Hoeber, Inc., 1952, p. 582.
4. Levy, S.: Pharmacological treatment of aged patients in a State Mental Hospital, *J.A.M.A.* **153:** 1260, 1953.
5. Furtado, D.; Moutinho, H.; Chichorro, V., and Ferreira, M.: Étude expérimentale de l'action vasodilatatrice de l'acide nicotinique et de ses dérivés, en particulier du ronicol, *Schweiz. Arch. Neurol. u. Psychiat.* **64:** 83, 1949.
6. Ginzberg, R.: (Chief of Geriatric Services, Veterans Administration Hospital, Tomah, Wisconsin) Personal communication.
7. Rechtschaffen, A.; Atkinson, S., and Freeman, J. G.: An intensive treatment program for State Hospital geriatric patients, *Geriatrics* **9:** 28, 1954.
8. Lucero, R. J., and Meyer, B. T.: A behavior rating scale suitable for use in mental hospitals, *J. Clin. Psychol.* **8:** 250, 1951.
9. Meyer, B. T., and Lucero, R. J.: A validation study of the L-M Fergus Falls Behavior Rating Scale, *J. Clin. Psychol.* **9:** 192, 1953.
10. Atkinson, Stuart E., and Atkinson, H. S.: A memory and orientation scale suitable for institutionalized geriatric patients. (Unpublished data.)
11. Edwards, Allen L.: Experimental Design in Psychological Research. New York, Rinehart, 1950.
12. Linquist, E. F.: Statistical Analysis in Educational Research. Boston, Houghton Mifflin, 1940.

# PATIENT-FAMILY RELATIONSHIPS*

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The science of Geriatrics and its application in adequately providing for the health and welfare of the aged has of necessity been thrust to the foreground during the past decades. Today we live longer. As the conquest of disease advances, the life span increases, and the upper age groups increase in numbers. However, there arise in conjunction, not only problems of disease but new sociologic and economic adjustments which alter living conditions for the aged and make demands on the younger age groups. These problems of adjustment for the geriatric neuropsychiatric patient have positive and negative aspects especially in relationship to relatives, as will be shown in some of the case illustrations cited in this article.

## FAMILY RELATIONSHIPS

Whether we care to admit it or not, a negative attitude exists on the part of society, that old age is an obstacle. Persons become nonproductive long before their abilities have vanished. They are forced into retirement while still capable of being productive, and are frequently looked upon as a burden for the family and community. Most persons desire to maintain the position that they have acquired. They want to hold the affection and esteem of those around them. They wish to feel accepted, wanted and needed. These desires may become more difficult to achieve as one grows older, due to changes within the person and to the changing circumstances and attitudes of the environment in which one lives. Often the variance of opinions, habits, and customs upsets the harmony which makes for tolerance and acceptance between the younger and older age groups. As a result there is friction, conflict, tension, hostility, quarreling, reproaches, insults and aggressive behavior. Usually the older person suffers. He is rejected, and not infrequently, is ejected. This is especially true of geriatric patients who need neuropsychiatric care.

Here at Tomah the social worker for the geriatric group has not only individual personal contact with the patients and their relatives, and studies their case records, but also makes regular ward rounds several times a week with the Ward Doctor. This offers a quicker and more thorough knowledge of the patients, and affords an opportunity for repeated observation of their reactions. The patients look forward to these ward rounds. For some it means a word of greeting or cheer, and for some it affords a chance to ventilate their feelings of aggression, hostility, or authority without being rebuked or contradicted. To know that someone will listen to their complaints and grievances, and will try to settle their

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problems, although they be trivial, gives the aged support and reassurance, and is an incentive toward cooperation. Many agitated and anxious patients make an excellent adjustment at the hospital because of the acceptance and attitude therapy exercised by the staff.

We are all cognizant of the fact that situations often reach a crucial state before treatment is sought for persons who are emotionally or mentally disturbed. Because the illness is not understood, fears and hatreds engendered in families under stress, are not readily set aside later when a patient's condition is in remission and he could become adjusted outside of the hospital. As a result, a negative attitude prevails toward the patient and the possibility of his rehabilitation.

During the past six months, correspondence has been initiated concerning more than 60 of our geriatrics patients. For some, relatives and friends were asked to write or to visit the patient to let him know that he was not entirely forgotten. For others, plans were suggested toward moving the patient away from the hospital, at least on a trial visit to his own home, to a domiciliary, or to a foster home.

What have been the results of our contacts? For a small number there has been a positive response—acceptance and cooperation for planning, renewal of correspondence with the patient, or visits to him at the hospital. For the majority, there has been a manifestation of rejection. Wives may correspond regularly and even visit with some degree of regularity, but when plans are suggested for the patient's return home for a visit, the picture changes drastically. Seven of these wives with whom we communicated portrayed fears and anxieties and refused to have their husbands sent home even for a short visit.

*Mrs. K.* is one of these wives. She informed the Regional Office representative that she was content to live as she had these past years, and refused to have her husband home. She lives in a small community and feels it is unwise and embarrassing to subject herself and her son to the patient's return. She is unwilling, however, to part with the $183.50 a month which she receives from the patient's compensation. Incidentally, the husband is considered nonpsychotic.

*Mrs. C.* presents a similar situation. She would like to divorce her husband, and cannot forget his aggressive conduct before being sent to Tomah. However, if there is a divorce, she will be deprived of the financial security she now has with a pension check and the husband's social security. She is also the patient's guardian. The patient is sufficiently in a state of remission to have insight into the situation. He is irritated and aggressive because of this rejection, and it is complicating his hospital care and treatment.

Through sustained casework with families, it has been possible in some instances to bring about a better understanding of the patient's behavior and an acceptance on a trial visit. Although previous visits have been distressing, *Mrs. E.* is now confident that she has a clearer concept of her husband's behavior, and with the support of the Regional Office worker, thinks she can cope with problems as they arise. Two weeks ago she came to take her husband home on a 90-day trial visit. Five months ago she was ambivalent and unwilling to try it.

Not only wives, but children, brothers and sisters and other relatives offer resistance to programs for patients ready to leave the hospital. This may be based on indifference, past fears and hostilities, lack of space and finances, in-law objections, and a multiplicity of reasons. One daughter responded that she would write and visit occasionally, but could see no reason for taking her father. She states he never adequately supported her mother and herself when they needed him.

*Mr. H.* has been ready to leave the hospital for some time if proper home environment is available. The brothers and sisters have ignored our correspondence. However, when the patient's letter reached them, saying that he receives a pension and would turn this over for his care, a reply arrived by return mail for plans. The Hospital had to disillusion them about the pension, which the patient does not actually receive. No further response has been forthcoming.

*Leo* is another patient who can leave if the brothers or sisters will offer him a home. The brother who is financially the most progressive is eager to have Leo live with him; but he feels he must receive at least $130.00 a month for his care, and the patient receives a nonservice-connected pension of only $63.00 a month. The brother was advised about the patient's heart condition, and was asked to assign only light tasks around the farm, when he last took him for a trial visit. Leo lost weight, and found the work of picking up stones on the farm and the daily sweeping of the center runway in the barn too exhausting. The Hospital has had to recall the patient. In a letter recently, the brother again requests the placement of the patient in his home, and outlines his specifications to the Hospital for this placement.

Plans for patients away from the hospital are further curtailed by dissensions among the relatives. *John's* brother, who lives 600 miles from here, took John for three days last year, against much opposition by the brothers and sisters who live nearer to the hospital—considerably nearer. John got along well, and the brother is interested in a longer visit this year, but the pressure of opposition from the relatives is causing friction.

## HOSPITAL THERAPY PROGRAM

Beside the positive and negative returns in family relationships, some of the positive methods used in the geriatric program within this hospital should be mentioned. Through casework with relatives, an effort is made for transference of methods used in dealing with patient-family relationships. As previously indicated, the hospital stresses attitude therapy. Emphasis is placed on an atmosphere of calm, of acceptance of the patient as he is, and a permissiveness allowing the patient as much freedom of choice as possible under routine. Every effort is made to adjust the environment to the patient. He is given understanding and counsel and he is above all given assurance of acceptance. His rights and feelings are respected. We try to remember that attitudes on the part of the personnel toward the patients are highly important; and we try in turn to respect the patients' attitudes and opinions. These may differ from our views, but it must be remembered that the patient, though not always right, is not always wrong.

He has reasons for his actions, and may resort to that method which seems to him to be the best way to make himself understood. His reactions should not frighten us, but should lead us to try to understand his thought processes and the underlying causes for his behavior.

Since inactivity leads to vegetation and restlessness, our geriatric patients are encouraged to partake in activities. They are urged and invited to become active, but are not obligated to do so. These activities may consist of ward details, occupational therapy, physical or corrective therapy, or any method of creative activity in which self-expression of ideas can be displayed.

In the transition period of moving patients from this protected hospital environment, the outside world presents a threat to their security, and many of them manifest anxieties. It is therefore necessary that relatives be given advice, help, support and guidance in understanding the patient and in adjusting to him. There is also a need to orientate the patient to his new environment and to aid him to a gradual adjustment, whether he goes to a relative, a domiciliary, another institution or a foster home. There can be a transference of this attitude therapy to bridge the period of adjustment, provided psychiatrists, psychologists or properly trained and oriented social workers are available, and are willing to understand and accept this method of guiding the geriatric patient.

## SUMMARY

Many of our neuropsychiatric geriatric patients could live outside of the hospital, with a minimum of guidance. The general attitude toward the aged in our American culture is negative. It is, with few exceptions, an unconscious indifference and neglect. Aged persons and their problems are ignored. This is even more true of the neuropsychiatric aged. They are frequently placed in institutions and forgotten. It behooves those who are properly trained and attuned to the needs of such patients, to do everything possible to aid in their placement and in the type of adjustment best fitted for their security and happiness.

# THE PSYCHOLOGIST AND GERIATRIC TREATMENT CONCEPTS

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## INTRODUCTION

During the past decade the traditional functions of the psychologist, *i.e.*, diagnosis, treatment and research, have been in a state of transition. In the main this transition has been marked by an increase in the scope of these functions and a consequent increase in responsibilities. Particularly noteworthy has been the increase in the number of psychologists participating in the organization of treatment programs in neuropsychiatric hospitals and a broadening of the psychologist's functions in these situations.

In this paper the evolvement of the present status of the psychologist will be considered particularly in regard to geriatric treatment programs.[1]

Formerly the functions of the psychologist in neuropsychiatric hospitals were primarily psychometric in nature. Research, such as it was, often was concerned with the numerous aspects of psychometrics, such as test construction and diagnostic differentiations based on tests.

Due to an increasing awareness of the potential contributions of psychologists in specific treatment programs, the psychologist, as a member of the psychiatric team, has been given an opportunity to apply the knowledge and techniques in which he is uniquely trained. This comparatively recent development has occurred in many service situations particularly in the Veterans Administration, and has been very appropriately labeled "ward psychology" (1).

Since professional roles and concepts of treatment develop within specific situations we shall discuss the psychologist's role in a specific treatment situation (*e.g.*, the Fergus Falls Geriatric Program (2)), and implications for treatment programs in general. Mention will be made of treatment concepts and the psychologist's role in utilizing them.

## THE ROLE OF THE PSYCHOLOGIST

The psychologist in a treatment program always works within the framework of the psychiatric team, which in the case of the Fergus Falls Geriatric Program included a psychologist, social worker, ward physician, recreation workers, an occupational therapist, nurses and psychiatric aides. A similar treatment program utilizing the team approach had previously been inaugurated with other groups of patients, *e.g.*, the Fergus Falls "total push" program for chronic patients (3).

[1] *Acknowledgments.* I am deeply indebted to Dr. W. L. Patterson, Superintendent, Fergus Falls (Minn.) State Hospital, for his enthusiastic support of the Geriatric Treatment Program, which provided the opportunity to develop the treatment concepts described in this paper; to Dr. John G. Freeman, under whose direction the program came into being; and to the entire staff of the Fergus Falls Geriatric Program for their numerous contributions to the subject of this paper.

The functions of a psychologist and of other workers in a specific treatment program are determined by the actual situation, involving such factors as the number of professional personnel available, and existing physical facilities. For example, due to other demands upon the psychologists' time and the practical demands of the program there may be very little use of formal psychometrics. Formal diagnostic and prognostic testing become secondary to the "team interview."

The psychologist usually administers psychometrics on a "consultant" basis. He may see the patient in one or two interviews and then review the test-interview information against the background of the social history and reports of behavior from other sources. These sources form the basis of the psychologist's report.

Treatment programs differ, but often it will be found that formal psychometrics can not, from a practical point of view, yield more information about the geratric patient than skillful "team interviews." In these interviews the psychologist makes use of his knowledge and training in *psychometric techniques*. Certain modifications of existing psychometric techniques may make more productive and formalized interviewing possible. This problem will be discussed later under research needs.

By far the greatest therapeutic effort of the psychologist in the Fergus Falls program was the initiation of group psychotherapy. The limited number of formally trained therapists precluded the use of individual psychotherapy except in relatively few cases.

It was felt that an extensive program of both formal and informal group activities would best meet the needs of the patients and at the same time make the best possible use of available personnel. This is not to imply that group therapy was considered a "second-best" method. Further reasons for the extensive use of group therapy in a geriatric treatment program will be outlined later under concepts.

A somewhat new, but extremely important aspect of the psychologist's function in a geriatric therapeutic program is as an advisor on, and teacher of "attitude-relationship therapy." The central concept of relationship therapy is the recognition of the fact that a therapeutic relationship to the patient can effect change in behavior and attitudes, and that each person who comes into contact with the patient is a potential therapist. For example, the psychologist with the 'team' might interview a patient who has been "fainting" on the occasion of her daughter's visits. At the same time this patient has become increasingly dependent upon ward personnel. After the interview, the psychologist might lead a discussion of this patient's total emotional, sociological, and physical environment and how an understanding of these factors might point out ways to help this patient help herself. Various questions might be raised, such as: Can the daughter visit in a "different way"? Have ward personnel encouraged the patient to be dependent? Will it help this patient to move her into another dormitory where she will be associated with quite self-sufficient patients? Relationship therapy *does not* depend on the uncovering of trauma and what one *says* to the

patient but upon the *behavior* of the therapist; thus the social and emotional relationship, with all the nuances of nonverbal communication, come into play.

The research function of the psychologist in a geriatric program is twofold: 1) to determine by controlled investigation whether or not the concepts underlying the program are valid and reliable, and 2) to investigate other methods, for example somatic therapies, which might contribute appreciably to the goal of helping the patient regain his equilibrium and take his place in our society.

## TREATMENT CONCEPTS

The rationale behind an intensive treatment program is based on the hospital as a therapeutic environment, where each aspect of the environment (such as food service, sleeping facilities, or interpersonal relationships) can be changed and planned to interact most effectively upon the patient. A therapeutic program must be "patient-centered," although not in the sense that the patient may prescribe treatment. The patient is always at the center of the stage but he does not direct the drama.

The elderly patient has certain very realistic limits due to physiologic changes but in every case these are only one aspect of the situation, and quite often equally important are the emotional and sociologic factors that accompany increasing age.

An emotional factor that appears to be almost universal among geriatric patients, although certainly not peculiar to them, involves feelings of worthlessness, helplessness and impending disaster. These feelings may arise at one time or the other in the life of any person at any age, but usually not with the intensity and duration observed in the elderly patient. Again, these feelings must be interpreted as being derived from emotional and sociologic factors as well as physiologic changes.

A geriatric treatment program, therefore, must be so organized that all its techniques will be built around this central concept; *all therapeutic energies are expended to the aim of modifying feelings of worthlessness and, if possible, the immediate causes of these feelings.*

The physiologic factors in the aged patient are, by definition, in the realm of the physician. The psychologist can act only as an educated layman and refer the problems to the physician.

The patient's attitude toward these physiologic changes, however, are at once the concern of the psychologist. The emotional and sociologic factors, as they interplay with the aging process, constitute the chief interest of the psychologist cooperating with the social worker.

The sociologic factors refer to the physical changes in our society that have come about during the lifetime of our patients. There is also evidence of a concomitant shift in society's attitude toward the elderly.

In our grandfather's time the elderly person in the family was looked upon with respect—perhaps for having lived so long! Every courtesy was awarded the "elder" of the family, even to the extent of demanding many sacrifices on the part of the younger members of the family unit. The "elder" was not per-

ceived as a worthless childish burden, but as a patriarch, wise and vested with authority. This view seems to have been gradually displaced by a negative attitude which Ginzberg (4) describes as "an approach based upon both a feeling and a conviction that the elderly are lost causes, that those advanced in age are doomed to regression and degeneration leading to such a loss of vitality that they are placed outside of any working active social group, whether family, clan, or society." Crowded living quarters, husband and wife as workers, and a desire to break with "tradition" may be some of the determinants of this attitude.

The emotional problems that arise from physiologic and sociologic changes are the main concern of the psychologist. The patient's attitudes to himself and his perception of the world as threatening and rejecting, constitute the emotional armor that the therapeutic team must penetrate.

A patient's concept of himself is dramatically revealed by a 67-year-old man who exclaimed, "I'm too old to work!" when he was invited to join other patients who were busy planting a flower garden. His expression of being "too old" seemed to mean that he felt that he was incapable of enjoying any of his former activities. He seemed to consider himself as utterly useless and correspondingly he was antagonistic to any "pretense" that he could still be considered as one who might enjoy group activities. Another patient, a woman of 70, refused to eat or bathe, and constantly reiterated her desire to return to her inadequate "home" where she had been secluding, and perhaps starving herself. Her rejection of her bodily needs together with her verbalizations of her desire to return "home" give us an idea of what her concept of herself might be. Although her physical environment had been altered, her psychologic environment had not appreciably changed.

These two patients represent a large group of institutionalized geriatric patients who share the erroneous belief that their useful life is over and that they must shun most of the activities of useful living.

It was reasoned that an extensive program of group activities such as gardening, parties, dances, or religious gatherings would demonstrate to the patient in a welcome way that he or she could look forward to a continued enjoyment of social activities. Group-therapy sessions of the socialization type were introduced, with the goal of giving the patient an opportunity to discuss any and all topics. The aim of the group leader was to reflect a positive attitude to the problems of the elderly and help guide the group toward helping themselves. The group was encouraged to plan social activities and make suggestions for improvements of the wards. (A "patient council" was formed as a direct result of the renewed interest of the patients in their environment.) Intrinsic in group therapy is the idea that the patient does not become dependent upon the therapist but is encouraged to develop his self-sufficiency. The geriatric patient is often over-dependent upon others as a direct result of the negative, rejecting attitudes previously noted.

It would seem that if the personnel with whom the patient comes into contact in the hospital situation reflect the discouraged, self-derogatory attitude of the patient, prognosis for change in the direction of positive attitudes and behavior is poor indeed.

Negative attitudes on the part of personnel can be changed, and this is a crucial responsibility of the psychologist in a treatment program. The psychologist may demonstrate these new attitudes by example and by leading discussions at 'team meetings' on the value to the elderly of a positive attitude as opposed to a negative one.

## RESEARCH

It is evident that there is much to be done toward experimentally verifying many of our present treatment concepts and techniques.

The research role of the psychologist is often both rewarding and frustrating. Results from a follow-up study of the Fergus Falls Geriatric Treatment Program (5) have been confusing. Although the discharge rate increased, general behavior on the wards did not improve.

Are patients happy in rest homes where, from practical necessity, they often have to go after discharge? What is the best way to attack the problem of modifying our present psychometric techniques so that the geriatric patient's capabilities may be better ascertained? The psychologist wonders about these things.

Practical research along the foregoing lines has tended to advance our knowledge, but we should not neglect more basic research in this area.

## SUMMARY

A discussion is presented of changes in the traditional functions of the psychologist in treatment programs. Treatment concepts are outlined with regard to geriatric patients. Fields for research are indicated.

## REFERENCES

1. Schlosser, J. R.; Sanders, R., and Buehler, R. E.: Pilot study for the treatment chronic patients. Interim report. Unpublished manuscript, Veterans Administration Hospital, Perry Point, Maryland, June, 1954.
2. Rechtschaffen, A.; Atkinson, S., and Freeman, J. G.: An intensive treatment program for state hospital geriatric patients, *Geriatrics* **9:** 28–34, 1954.
3. Sines, J. O.; Lucero, R. J., and Kamman, G. R.: A state hospital total push program for regressed schizophrenics, *J. Clin. Psychol.* **8:** 189–193, 1952.
4. Ginzberg, R.: The negative attitude toward the elderly, *Geriatrics* **7:** 297–302, 1952.
5. Atkinson, S. E.; Field, S. P., and Freeman, J. G.: An intensive treatment for state hospital geriatric patients: further progress and results, *Geriatrics* (in press).

# CEREBRAL ARTERIOSCLEROSIS AND THE SO-CALLED PRESENILE SCLEROSES

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The pathoanatomic findings in many cases of arteriosclerotic atrophy of the brain are extremely problematic and challenging when contrasted in some detail with those attending the atrophies incident to Alzheimer's and Pick's diseases. It is noted in some cases especially that there is considerable overlapping of the gross, as well as microscopic, pathologic changes designated by text books as characterizing the three diseases (1). This obtains so strikingly at times that there is an increasing opinion, among pathologists especially, that these three conditions represent varied and quantitative phase developments having one, or essentially the same pathogenesis (2). It is not unlikely that the arteriosclerotic processes or equivalent anoxias may prove eventually to be such a basic cause.

Many features of the following condensed case report are illustrative of these parallel findings, both clinical and anatomic, in the three degenerative processes now regarded as distinct entities by most authorities. In this case a microcytic anemia was associated with the arteriosclerosis as an additional mechanism of anoxia.

## CASE REPORT

N. A., a white male 85 years of age, was admitted to this hospital as a transfer from the United States Naval Hospital on January 9, 1952. The diagnosis was arteriosclerosis, cerebral and general, manifested by profound intellectual and emotional deterioration and complete helplessness.

The patient's behavior did not change after admission. He was disoriented in all three spheres, never talked spontaneously, was incontinent and had to be spoon-fed. When interest was shown in him and he was asked about his health or other indifferent questions, he would smile and mumble a few words which were not always understandable. In spite of the fact that he had to be fed, his appetite was excellent.

He was bedfast most of the time and suffered from recurrent upper and lower respiratory infections, for which streptomycin, duracillin® and terramycin® were administered. His pulse rate continued to be regular. Blood pressure was 130–140 systolic and 80–90 diastolic. An electrocardiogram taken in February 1953 was within normal limits. A roentgenogram of the chest showed sclerotic changes in the aorta and aortic arch. The hematologic examinations indicated a microcytic anemia. Intensive vitamin therapy was started. Results of blood serologic and chemical determinations were within normal limits.

The neurologic examination was not satisfactory, as the patient resisted and was unable to cooperate. Patellar reflexes were increased. Cremasteric reflexes were present but there were no abdominal reflexes. Tests for cranial nerve function and eye grounds could not be carried out.

On urinalysis from February 26, 1952 to August 25, 1953, the findings were normal, except on the latter date, when microscopic examination showed a rare RBC. Blood count, January 11, 1952: RBC 3,510,000; Hb. 75 per cent; WBC 5,000; Neut. 79 per cent, Lymph. 14, Mono. 6, Eos. 2, Bas. 0. On January 14, 1952, serologic reaction to the Kahn test was negative.

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Blood count, September 25, 1952: RBC 4,000,000; Hb. 80 per cent; WBC and differential normal. On November 11, 1952, the level of blood glucose was 102 mg., and of nonprotein nitrogen, 34.2 mg. per 100 ml. Blood count, November 13: RBC 3,000,000; Hb. 60 per cent. On December 17, 1952, the level of blood glucose was 115 mg. per 100 ml. On August 31, 1953, the WBC was 10,850.

For five to six weeks the patient had had a low-grade fever, with occasional elevations of temperature up to 102°F. He did not respond to antibiotic treatment but his general condition was good and his pulse and blood pressure did not show any changes. On October 8, 1953, he appeared to be in his usual condition; he ate his regular meals and enjoyed them. Shortly after supper at about 5:20 p.m. he suddenly became cyanotic and dyspneic and expired a few minutes later. His death was attributed to an acute cardiac insufficiency which resulted most probably from a coronary occlusion.

*Clinical diagnoses.* 1) Arteriosclerotic heart disease, with coronary occlusion. 2) Arteriosclerosis, general. 3) Chronic brain syndrome associated with cerebral arteriosclerosis. 4) Infarction of myocardium due to arteriosclerotic coronary thrombosis.

### *Gross anatomic observations*

*Heart.* The tricuspid valve was normal. The length of the tricuspid valve was 12.6 cm. The pulmonary valve was normal and measured 8.7 cm. The cusps of the mitral valve were only slightly thickened. One area measured 1.4 cm. but was not enough to cause dysfunction. The valve measured 10.6 cm. The base of one leaflet was slightly thickened by soft yellow tissue resembling atherosclerotic plaques. All the cusps or leaflets were thickened by a moderate degree of fibrosis. The commissures between the cusps of the aortic valve were slightly adherent and the mural surfaces of the cusps were roughened and had atheromatous thickening. This generalized atheromatous thickening continued into the aorta but was only moderately advanced. The aortic valve measured 6.9 cm. There was a small amount of atheromatous thickening around the ostium of the right coronary and a moderate amount around the ostium of the left and the ostium was reduced in size. In the sinuses of Valsalva, there were moderate atheromatous plaques. At a point 2.7 cm. below the ostium of the left coronary there was a coronary occlusion. This area was marked by an atheromatous thickening which was 4 mm. long and 2 mm. wide and was brownish gray in color at the center, with reddish brown surrounding discoloration which appeared to be subintimal hemorrhages; there was one area of reddish gray discoloration in the left ventricle; this area measured 2.9 x 1.1 cm. and appeared to be an infarction. The right ventricle was 2.5 mm. in thickness and the left ventricle was 1.7 cm. in thickness. The auricles were normal. The myocardial scar area was in the anterior wall of the left ventricle at the mid area. The heart weighed 412 grams. The aortic arch showed a firm, stiff area of distinct calcific deposition in the superior, left lateral wall.

*Head and neck.* None of the salivary glands or lymph nodes could be palpated but the neck was very short and rather fatty. The thyroid gland was not enlarged and weighed 15 grams on the right side and 13 grams on the left. The thyroid tissue was not abnormal in gross appearance. The eyes and pupils have been described in the general description and there were no exudates from the nose, mouth, or ears. The teeth were extracted and there were no dentures present. The mouth and throat appeared normal. The parathyroids were normal in number, size, shape and appearance.

*Brain.* The usual incisions were made in the scalp, and the brain was removed without any maceration or distortion. The convolutions were small, especially at the anterior extremities of the temporal lobes on both sides extending slightly into the frontal lobes. These areas showed considerable atrophy, extending 3 cm. in diameter and causing slight depression below the rest of the surface of the brain. One midline coronal section was made to permit penetration of the formalin. The right lateral ventricle was moderately enlarged,

as was the left ventricle. Both vertebral arteries and the basilar artery showed a moderate thickening and hardening due to sclerotic plaques. The latter extended in mild degree into the Circle of Willis, involving the lateral branches to a lesser extent, but the anterior cerebral arteries were thin and nonsclerotic. The brain weighed 1,280 grams.

### *Microscopic anatomic observations*

*Heart.* The fibers were large but often fragmented and widely separated. They had transverse banding but some showed it poorly or not at all. Walls of small arteries were thickened as was also the interstitium in some areas. There were foci of extravasation of red cells and other small foci of lymphocytes and plasma cells. Some muscle fibers were pale, or stained poorly; others were swollen, with enlarged, distorted nuclei. There was a large area of fibroblastosis replacing the muscle cells and similar smaller, dispersed areas. Zones of acute and chronic infarction were noted. There were areas of focal fat-cell invasion of the interstitium. Nuclei were absent in some areas and many muscle cells in others.

*Brain.* There was some early thickening and hyalinization of the small arteries and veins, and some status cribralis formation. It was advanced around a few vessels, especially the veins, in which areas the ganglion cells were reduced. The few remaining showed dyschromatism and distortion, being also pale or achromatistous. There was heavy gliosis in some areas and moderate to heavy satellitosis in various areas. Corpora amylacea were numerous in some areas. There were vacuolated tissue spaces but no infarctions. The degree of cerebral pathologic changes was greater than the vascular changes would indicate. There was extensive status lacunaris. The glial cells were microglia and astrocytes. Basal ganglia were involved.

*Pathologic diagnoses.* 1) Coronary occlusion, left anterior descending coronary artery due to atheromatous plaque and subintimal hemorrhage. 2) Arteriosclerosis, generalized. 3) Arteriosclerosis, cerebral arteries, minimal. 4) Myocardial infarction, old, left ventricle. 5) Subacute interstitial pneumonitis. 6) Fatty metamorphosis of heart. 7) Nephrosclerosis, arterial, and pyelonephritis, chronic. 8) Passive congestion of spleen, liver, and kidneys. 9) Adenoma, adrenal cortex. 10) Adenoma, thyroid, discrete, small. 11) Atrophy of brain, generalized, moderate, more marked in the anterior tip of temporal lobes and contiguous frontal lobes, arteriosclerotic. 12) Hydrocephalus, lateral ventricles, early, compensatory. 13) Myocardial infarction, recent, left ventricle; minimal age four hours, but probably older.

## DISCUSSION

Some of my associates are now beginning to suspect that cerebral arteriosclerosis may produce the gross and microscopic findings of Alzheimer's (3) and Pick's diseases. These three diseases occur in older age groups, and often in the microscopic slides of specimens from cases of typical Alzheimer's or Pick's disease there are seen variable degrees of brain changes which are possible results of arteriosclerosis. Indeed, most of the slides which I have seen from cases of so-called Alzheimer's or Pick's disease have shown varying degrees of thickening or hyalinization of the cerebral vascular network, and occasionally other vascular histopathologic changes.

The brain atrophy, occasionally diffuse, but more marked in the anterior angle of the temporal lobes and contiguous frontal lobes, is conceded by authors of current text books (1), to be a finding in Pick's disease; but in cerebral arterio-

sclerosis, brain atrophy is likewise observed as a distinct feature of gross anatomic changes. In arteriosclerosis we found areas of atrophy which, as denoted by texts (1), are indicative of Pick's disease. Similarly, advanced microscopic changes of arteriosclerotic atrophy are sometimes found, and might be imputed to the effects of the presenile scleroses of Pick or Alzheimer. However, in cerebral arteriosclerosis the brain weight is slightly in excess of that regarded as an admissible average for either of the presenile scleroses. The more extreme anatomic changes of the latter diseases, such as argyrophilic plaques and neurofibrillar fractures, have not been observed by us in arteriosclerosis but are known to ensue in more than one type of advanced degenerative process, even though commonly and historically regarded as more highly specific for the presenile scleroses. "Presenile" is a serious misnomer, since it is obvious that if such striking degenerative changes are present in tissues there is, *ipso facto*, premature senility. Moreover, it is evident that the dividing line with respect to age (earlier than which, cases are adjudged "presenile") devolves a fallacious concept of these diseases, since 65 years is manifestly an arbitrary criterion for differentiating the senium from the pre-senium.

It is significant that detailed studies by Rothschild (4) have demonstrated Alzheimer's plaques in 50 per cent of a representative series of 28 cases of arteriosclerotic psychosis. There were also 17 instances of demyelination and loss of axis cylinders.

## SUMMARY

A case of cerebral arteriosclerosis is presented, which showed the clinical and anatomic changes also associated with Alzheimer's or Pick's diseases ("presenile" psychoses). The following features are worthy of emphasis:

1. The moderate degree of arteriosclerosis, contrasted with the advanced degree of mental dissociation (the patient was practically vegetating). Despite the early stage of arteriosclerosis, the damage to the brain parenchyma was surprisingly great and was proportional to the psychosis.

2. This moderate degree of cerebral arteriosclerosis may be found at necropsy along with the histologic changes of Alzheimer's or Pick's diseases, and such an association is perplexing to the pathologist. In these cases, it is difficult to decide whether the marked psychosis and psychic deterioration are due to the anatomic changes typical of arteriosclerosis, or to those typical of Alzheimer's or Pick's diseases.

3. The degree of anemia or of other anoxic mechanisms is also important in the long-term prognosis of parenchymal brain damage. The duration of a significant degree of anemia is of special importance and is a factor sometimes overlooked or understressed. In the present case, a moderate to considerable hypochromic anemia was known to have been present for almost two years before the patient's death and was probably operative over a period of several years before it was detected, and later in spite of intermittent treatment. It undoubtedly enhanced the deteriorating effect of the arteriosclerosis and may have accounted for much of the wide discrepancy in quantitative status between the

moderate changes in the cerebral vascular system and the advanced changes in the cerebral parenchyma.

4. Atrophy of the anterior tip of the temporal lobe and contiguous frontal lobe, accepted as a concept of Pick's disease, is found also in cerebral arteriosclerosis.

## REFERENCES

1. Moore, R. A.: Textbook of Pathology. Philadelphia, W. B. Saunders Co., 1952, p. 943.
2. Personal communications and consultations.
3. Leavitt, F. H., and Lewey, F. H.: Clinicopathologic study of Alzheimer's disease: report of a case, *Arch. Neurol. & Psychiat.* **47:** 872, 1942.
4. Rothschild, David: Neuropathologic changes in arteriosclerotic psychoses and their psychiatric significance, *Arch. Neurol. & Psychiat.* **48:** 417, 1942.

# SLEEP AND SLEEP DISTURBANCE IN GERIATRIC PSYCHIATRY* †

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"With regard to sleep—as is usual with us in health, the patient should wake during the day and sleep during the night . . . but the worst of all is to get no sleep either night or day; for it follows from this symptom that the insomnolency is connected with sorrow and pains, or that he is about to become delirious" (1). Thus wrote Hippocrates about 2,500 years ago. Since then many hypotheses have been offered to explain the phenomenon of sleep. There are neural, chemical, biologic, psychologic, physiologic and other theories (2–11), but none of them seems to present a satisfactory explanation of the functioning of the sleep mechanism. It is obvious that there are too many gaps which leave room for speculation and create the impression, as Stanley Cobb has stated, that "Much is written about sleep by poets, essayists and scientists—but despite the great prevalence of the phenomenon, almost nothing is known of its nature" (12). This, however, has been disputed by others. Pavlov (13), for example, was convinced that he had found an answer. Kleitman, who criticized and denied Pavlov's theories, felt that his own theories provided a better foundation; he states that "there is not a single fact about sleep that cannot be equally well interpreted as a letdown of the waking activity" (14).

Without going into an analysis of existing theories, it appears sound to assume, with Kleitman (3), Bartley and Chute (5) and others, that sleep and wakefulness are two phases of one cycle which are complementary to each other. Activity (wakefulness) is followed by rest (sleep) and, vice versa, rest makes activity, and therefore life, possible. If one accepts the idea of rhythmicity in life, it is easy to agree with the formulation of Shyam Naraian Mathur that sleep is "the restful component of the rhythm of life" (15).

It is not the purpose of this paper to describe the differences between sleep and wakefulness. However, attention is called to the fact that sleep differs substantially from other sleep-like conditions such as coma and anesthesia. The chief characteristic that distinguishes sleep from other sleep-like conditions is that internal or external stimuli can quite suddenly terminate sleep and reverse it to a state of wakefulness. The same stimuli are also capable of preventing sleep when there is a need for it, creating conditions which are usually referred to as sleeplessness or insomnia when the sleep disturbances are of a major nature, and as hyposomnia, or sleep insufficiency, when the disturbances are minor ones.

The range of such stimuli is wide. Psychic, somatic and environmental factors

* Dedicated, in honor of his 60th birthday, to my teacher and friend, Prof. Dr. Heinz Boening, head of the Neuro-Psychiatric Department, Medical School, Justus Liebig University, Giessen, Germany.

† This paper was reviewed and approved for publication by the Office of the Chief Medical Director of the Veterans Administration.

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all affect sleep. It is no wonder, therefore, that sleep disturbances are among the most frequent complaints in medical and neuropsychiatric practice. Moreover, since many factors can be thought to give rise to sleeplessness, there is a wide field for speculation and contradictory interpretations. Conflicting reports of observations concerning habits of sleep further complicate the picture.

For instance, there are disagreements about the frequency of sleeplessness among psychotic patients. On the one hand, we read that "few psychiatrists would disagree that nine out of every ten psychopathological cases complain of insomnia" (16), or that the great majority of patients in mental hospitals complain of lack of sleep (17). In contrast to this opinion, Sadler, in a short paragraph devoted to "Sleep of the Insane," writes that a "peculiarly profound and unusual state of sleep characterizes some of the insanities" (18). Others, although admitting that insomnia is a problem among psychotics, feel that it is based on affective overstimulation (19, 20). Magnussen, an authority in this field, found that sleeplessness is a prominent symptom in most mental diseases (21); but Kleitman states that insanity per se has no characteristic effect on sleep (22). Some textbooks mention sleep disturbances in encephalitis, passing by the problem when psychotic conditions are discussed (23).

If it is difficult and often impossible to explain the character of sleep disturbances in younger and middle-age groups; the matter is even more complex in advanced life. Here the greater frequency of pathologic alterations combined with socioeconomic and other unfavorable environmental conditions obscures the problem (24–27).

Although it is commonly assumed that disturbances of sleep are frequent in advanced life, this is not a unanimous opinion among geriatricians. The most accepted concept among geriatricians is that elderly persons need less sleep than younger ones (28–33). Jaspers goes so far as to say that the average duration of sleep falls to three or four hours after the age of 60 (34). Other authors claim that insomnia is common in the aged (35, 36). Müller (37) thinks that diminution of sleep is physiologic in advanced life. Magnussen feels that in elderly people the sleep regulatory mechanism is often weakened, resulting in light sleep of short duration (38).

There are, however, leading gerontologists who fail to mention the problem. In Cowdry's "Problems of Ageing" (25), where physiologic, medical, psychiatric, and neurologic aspects of aging are discussed, no note is made of sleep problems in advanced life.

Others deny the existence of sleep difficulties. Basylewicz (39) found no insomnia among his 72 patients. Laird (40), in the report of his survey, stated that there is a tendency with increased age to take more, rather than less sleep; and that older people appear to withstand sleep deprivation better than younger people. This is in contrast to the opinion of Boas, who felt that members of younger age groups can tolerate temporary sleep deficits better than older persons (41).

Of historical interest are Benjamin Rush's observations that sleep disturbances in the aged are frequent. He mentions that elderly individuals "often sleep

without knowing it, and that their complaints in the morning, of the want of sleep, arise from ignorance, without the least intention to deceive" (42).

That disorders of sleep constitute a problem in the physical and mental diseases frequent in advanced life, is the opinion of many observers (43–50). Saunders mentions that cerebral syphilitic diseases are accompanied by sleeplessness (47). Rothschild lists sleeplessness as an early symptom of arteriosclerotic psychosis (48). Neumann and Cohn found restless wandering, especially at night, characteristic in Alzheimer's disease (49). Other authors state that elderly persons sleep during the day and cannot sleep at night (51, 52).

Since knowledge regarding sleep disturbances is sketchy, and the available information contradictory, this study was undertaken in order to examine this problem among psychotic and nonpsychotic elderly people living in a controlled environment.

## BACKGROUND INFORMATION

Two separate investigations were conducted: 1. In county homes in Iowa. 2. In the Geriatric Division of the Veterans Administration Hospital in Tomah, Wisconsin.

### 1. *County homes in Iowa* (Table 1)

The total of 70 residents includes 54 males and 16 females. Forty-seven were classified as nonpsychotic and 23 as mildly mentally ill. The mean age of the whole group was 74.8 years.

### 2. *Veterans Administration Hospital, Tomah, Wisconsin* (Tables 2, 3, 4 and 5)

The newly organized Geriatric Division consists of two buildings with a total of 323 psychotic patients (Table 2). Only the 297 among them, who were 55 years of age and over, were included in the survey. Sixteen patients suffered from convulsive disorders and were receiving anticonvulsive medication, so that actually only 281 patients of this group were suitable for sleep studies.

Of these 281 patients, 278 were on the Geriatrics Service for thirty-one days and 3 for twenty-four days during the observation period, making a total of 8,690 patient days.

TABLE 1

*Background Information Concerning 70 Nonpsychotic and Mildly Mentally Ill County Home Residents in Iowa*

| Mental status | General data | | | Marital status | | | | Place of residence most of life | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | Mean age (yrs.) | Never married | Widowed | Divorced or separated | Married, spouse living | Farm | City | Farm and city | Institution | Not known | |
| Nonpsychotic | 40 | 7 | 75.1 | 29 | 12 | 4 | 2 | 30 | 15 | 1 | — | 1 | 47 |
| Mildly mentally ill | 14 | 9 | 74.5 | 12 | 9 | 1 | 1 | 8 | 8 | 2 | 5 | — | 23 |
| Total | 54 | 16 | 74.8 | 41 | 21 | 5 | 3 | 38 | 23 | 3 | 5 | 1 | 70 |

TABLE 2

*Background Information.* I.

General information: 297 VA hospital neuropsychiatric patients 55 years of age and over.

| | |
|---|---|
| Total number of patients | 297 |
| Mean age (yrs.) | 62.29 |
| No. of patients without convulsive disorder | 281 |
| Marital status | |
| Single | 157 |
| Married | 73 |
| Divorced, separated, unknown | 30 |
| Widowed | 37 |
| Occupational status | |
| Professional, clerical, business | 47 |
| Farmers | 34 |
| Manual labor, skilled and unskilled | 186 |
| Retired, unemployed, unknown | 30 |
| Length of institutionalization | |
| 0–4 years | 54 |
| 5–9 years | 70 |
| 10 years and over | 173 |

TABLE 3

*Background Information.* II.

Medical information: 297 VA hospital neuropsychiatric patients 55 years of age and over.

| | |
|---|---|
| Total number of patients | 297 |
| Symptoms of general arteriosclerosis | 128 |
| Diabetes mellitus | 19 |
| Wheel-chair patients | 24 |
| Blind or almost blind | 8 |
| Epileptic disorders | 16 |
| *Blood pressure* (mm. Hg) | |
| Patients 55 to 59 years: | |
| Mean systolic | 131 |
| Mean diastolic | 82.5 |
| Patients 60 to 64 years: | |
| Mean systolic | 139.5 |
| Mean diastolic | 83 |
| Patients 65 years and over: | |
| Mean systolic | 144 |
| Mean diastolic | 86 |
| *Total*—patients 55 years and over | |
| Mean systolic | 138 |
| Mean diastolic | 84 |
| Patients with systolic blood pressure <150 | 202 |
| Patients with systolic blood pressure >150 | 79 |

Table 3 supplies information regarding the medical condition of the patients, Table 4 gives the psychiatric diagnoses, and Table 5 shows that the service was an active one, with an enrollment in occupational and corrective therapy units of about 90 per cent in one building and 60 per cent for both buildings. More

TABLE 4

*Background Information.* III.

Psychiatric diagnoses: 297 VA hospital neuropsychiatric patients 55 years of age and over.

| | |
|---|---|
| Total number of patients | 297 |
| Schizophrenic reaction (various types) | 123 |
| Cerebral arteriosclerosis | 57 |
| Syphilis of the central nervous system | 47 |
| Convulsive disorder of various etiologies | 16 |
| Multiple sclerosis, Huntington's chorea, post-encephalitic conditions, and other organic diseases of the central nervous system | 12 |
| After-effects of alcoholism | 10 |
| Senile dementia | 9 |
| Psychoses associated with endocrine disorders (including involutional psychosis) | 6 |
| Presenile sclerosis (Alzheimer) | 4 |
| Manic-depressive psychosis | 4 |
| Psychosis with mental deficiency | 3 |
| Post-concussion syndrome | 3 |
| Neuroses, psychopathic conditions | 3 |

TABLE 5

*Background Information.* IV.

Psychiatric treatment: 297 VA Hospital neuropsychiatric patients 55 years of age and over.

| | |
|---|---|
| Total number of patients | 297 |
| Building 402: | |
| Enrolled in OT* and CT† | 140 |
| Group psychotherapy | 25 |
| Individual psychotherapy | 8 |
| Building 401: | |
| Enrolled in OT and CT | 60 |
| *Total*—Buildings 402 and 401: | |
| Enrolled in OT and CT | 200 (more than 60 per cent) |
| Ground privileges | 75 |

* Occupational therapy.

† Corrective therapy.

than one fourth of all patients had ground privileges at the time of the survey. Thirty-three patients, or about 12 per cent, were taking group and/or individual psychotherapy.

The breakdown into age groups shows that 97 patients were 55 to 59 years of age, 109 were between 60 and 64, and 75 were 65 years of age and over, the oldest person being 84 years of age. The mean age of the whole group was 62.3 years.

Most of the patients slept in nine dormitories of 22 to 26 beds each; the rest slept in rooms with 1 to 3 beds.

## METHOD OF THE SURVEY

### 1. *County homes in Iowa*

Two questions regarding sleep were included in the survey entitled "Attitudes, Background, and Health of Elderly Residents in County Homes with a View to Their Personal and Social Adjustment." (For further details see Ginzberg and Brinegar (53 a, b and c), and Olsvary (54).) One question was a direct one: the subject was asked whether or not he suffered from sleeplessness. At another point he was faced with the statement, "Can't sleep well at night," and was asked to answer "Yes" or "No." The sleep data obtained were statistically correlated with other items of the study.

### 2. *Veterans Administration Hospital, Tomah, Wisconsin*

This study was conducted from July 1 to July 31, 1953, and two types of data, objective and subjective, were gathered.

**a.** *Objective data.* Hypnotic drugs administered were tabulated every night during the month of observation on special charts which contained the name of each patient and a column for each day of the month. The nurse put the letter "S" beside the patient's name

TABLE 6

*Types of Sleep and Sleep Disturbances, According to Psychiatric Diagnoses of 297 VA Hospital Neuropsychiatric Patients 55 Years of Age and Over*

| Sleep Groups | Diagnoses | | | | | Total |
|---|---|---|---|---|---|---|
| | Schizophrenic reaction (various types) | Chronic brain syndrome with cerebral arteriosclerosis | Chronic brain syndrome with syphilis of the central nervous system | Other: (involutional & manic depressive psychoses, alcoholics, inadequate personalities, senile dementia, presenile psychosis, etc.) | Psychoses, from convulsive disorders (various etiologies) | |
| Major sleep disturbances: insomnia requiring hypnotics | 7 | 4 | 2 | 10 | — | 23 |
| Minor sleep disturbances: (observed on night rounds) | | | | | | |
| (a) toilet needs | 8 | 5 | 2 | 4 | — | 19 |
| (b) other causes | 19 | 3 | 6 | 5 | — | 33 |
| Total major and minor sleep disturbances | 34 | 12 | 10 | 19 | — | 75 |
| Sleep without noticeable disturbances | | | | | | |
| (a) receiving anticonvulsive therapy | — | — | — | — | 16 | 16 |
| (b) without hypnotic medication | 89 | 45 | 37 | 35 | — | 206 |
| *Grand total* | *123* | *57* | *47* | *54* | *16* | *297* |

in the appropriate column on each night a sedative (hypnotic) drug was given. The usual notations were also made in routine daily nurse's notes for each patient. The next morning the notations were checked by the nurse in charge of the building and by the author.

The author also inspected the wards on several evenings and nights. On two occasions (once at the beginning and once at the end of the night) a group consisting of the author, a nurse, a ward attendant, and the night supervisor counted the number of patients who were found awake. A flashlight was used to make certain that no patient who was awake was overlooked.

After the data had been gathered, the subjects were classified into three sleep groups:

1. Major sleep disturbances that required hypnotic drugs.
2. Sleep with minor disturbances:
   a) Because of toilet needs.
   b) For other reasons. In this group were included patients who either slept at intervals with recesses of minor duration, or who retired slightly later and/or got up slightly earlier. None of them required sedation or hypnotic drugs either during the observation month or during the time immediately preceding or following the observation period.
3. Sleep without noticeable disturbances. This group usually slept through the entire night.

The patients were also divided into four diagnostic groups: 1) schizophrenic reactions of various types; 2) cerebral arteriosclerosis; 3) syphilis of the central nervous system (predominantly of the meningo-encephalitic type); and 4) others. Patients in group 4, which included a variety of diagnoses, were placed together only because the number in each diagnostic category was too small for separate evaluation. Table 6 gives details about the diagnostic composition of the sampling.

**b.** *Subjective data.* Sixty patients with whom communication was not difficult were questioned about their sleep habits. They were asked whether their sleep was good, fair, or poor; whether they had to get up to go to the bathroom during the night; and, if so, whether they fell asleep immediately afterward.

Since the data originated from two different sources and were based partly on subjective and partly on objective criteria, Table 7 was devised to show how these data were reduced to a common standard.

TABLE 7

*Standardization of Data Gathered by Different Methods*

| Objective criteria (VA Hospital, Tomah) | Subjective criteria | |
|---|---|---|
| | VA Hospital, Tomah | County Homes in Iowa |
| 1. Major sleep disturbance = *Insomnia* requiring hypnotic drugs | 1. "Poor" sleep = *Insomnia* | Sleeplessness = *Insomnia* = "Can't sleep well at night" (covers both major and minor disturbances) |
| 2. *Minor* sleep disturbances<br>a. Because of toilet needs (patients encountered in bathrooms)<br>b. Other causes (found awake in bed) | 2. "Fair" sleep = *Minor* sleep disturbances | |
| 3. *Sleep* without noticeable disturbances | 3. "Good" sleep = *Sleep* without noticeable disturbances | 3. "Not sleepless" = "Can sleep well at night" = *Sleep* without noticeable disturbances |
| 4. Questionable results | 4. Questionable answers | 4. Questionable answers |

### *Statistical evaluation*

An analysis of the material of both the county-home survey and the Veterans Administration hospital survey was made by the Processing Division of the Statistical Laboratory of Purdue University. The evaluation was made by Dr. Carl F. Kossack, Director of the Laboratory.

$Chi^2$ for the contingency tables was computed, using the usual formula. In cases of small frequencies (less than 3), Yates' correction for continuity was applied. Two sets of analyses were made, one breaking the types of sleep into three groups (major, minor, and no disturbances), and one breaking them into two groups (minor and no disturbances combined in one group).

Clinical case studies of those subjects who received hypnotics were added.

## RESULTS

Evaluations of their own sleep, which was made by 60 VA hospital patients and 70 county-home residents, are listed in Table 8 (*see* also Table 7 for further explanation). Altogether roughly 14 per cent of the subjects of both surveys felt that their sleep was not satisfactory.

Table 9 shows that only 30 (50 per cent) of the 60 VA neuropsychiatric (NP) patients who were questioned said that they had to get up during the night because of toilet needs, and that 26 of these 30 (87 per cent) claimed to have no difficulty in falling asleep immediately afterward.

Among the VA NP patients there were no statistically significant differences in sleep between age groups within each diagnostic category, or within all diag-

TABLE 8

*Subjective Evaluation of Sleep and Sleep Disturbances in 60 VA Hospital Neuropsychiatric Patients 55 Years of Age and Over, and 70 Residents 65 Years of Age and Over of Four County Homes in Iowa*

| Types of sleep | VA hospital | County homes | Total |
|---|---|---|---|
| a. Major sleep disturbance (insomnia) | 5 | 13 | 18 |
| b. Good or fair sleep (sleep with no, or with minor disturbances) | 55 | 53 | 108 |
| c. Questionable | — | 4 | 4 |
| *Total* | *60* | *70* | *130* |

TABLE 9

*Subjective Evaluation of Character of Sleep Disturbance Caused by Nocturnal Toilet Needs of 60 VA Hospital Neuropsychiatric Patients 55 Years of Age and Over, Who Were Receiving Neither Anticonvulsive nor Hypnotic Medication*

| Types of sleep | Total number | Fell asleep immediately after | Could not fall asleep (major sleep disturbance) |
|---|---|---|---|
| a. Awake one or more times during the night because of toilet needs | 30 | 26 | 4 |
| b. Slept the whole night through | 30 | — | — |
| *Total* | *60* | *26* | *4* |

TABLE 10

*Factors Correlated with Sleep Disturbances and their Statistical Evaluation*
Part I: 281 VA hospital neuropsychiatric patients

| Factor | Number of sleep groups employed* | $Chi^2$ | P | Significance |
|---|---|---|---|---|
| 1. Age groups (55–59; 60–64; 65 & over) | | | | |
| a. Schizophrenic reaction | 2 | .167 | > .50 | No |
| b. Cerebral arteriosclerosis | 2 | .018 | > .75 | No |
| c. Syphilis of CNS | 2 | 1.032 | > .25 | No |
| d. Other | 2 | .124 | > .50 | No |
| 2. Age groups (55–59; 60–64; 65 & over): all diagnoses | 2 | .236 | > .75 | No |
| 3. Diagnosis (all age groups) | 3 | 11.506 | .1> P > .05 | No |
| | 2 | 9.764 | < .025 | Yes |
| 4. Symptoms of general arteriosclerosis | 2 | .04 | > .90 | No |
| 5. Systolic blood pressure | 3 | .284 | > .75 | No |
| | 2 | .066 | > .75 | No |
| 6. Length of hospitalization | 3 | 7.723 | > .10 | No |
| | 2 | 4.470 | > .10 | No |
| 7. Occupational status | 3 | 4.390 | > .50 | No |
| | 2 | 2.660 | > .25 | No |

* Three sleep groups = 1. Major sleep disturbances. 2. Minor sleep disturbances. 3. Sleep without noticeable disturbances. Two sleep groups = 1. Major sleep disturbances. 2. Sleep, without or with minor disturbances.

nostic categories combined (Table 10). In other words, the statistical analysis shows that in this sampling, sleep disturbances were not related to the age factor. Therefore, in subsequent correlations all age groups were considered together. It also appeared justified to combine data from the two studies, as these data were obtained by similar methods, even though the mean age of the Iowa sampling was 74.8 years and of the VA hospital group, 62.3 years.

Of the 281 VA patients, only 23 (about 8 per cent) suffered from sleep disturbances that required hypnotics. However, not all of them received drugs every day. The frequency of medication was as follows:

| No. of patients receiving hypnotics | No. of days hypnotics were admin'd during observation month | No. of doses admin'd during observation month |
|---|---|---|
| 10 | 31 | 310 |
| 1 | 26 | 26 |
| 1 | 19 | 19 |
| 2 | 14 | 28 |
| 1 | 12 | 12 |
| 1 | 11 | 11 |
| 1 | 8 | 8 |
| 1 | 3 | 3 |
| 2 | 2 | 4 |
| 3 | 1 | 3 |
| *Total* *23* | | *424* |

Altogether, 424 doses of hypnotics were administered in 8,690 patient days.

Among the 23 patients receiving hypnotic medication, two groups were represented most prominently—those with full privileges on an open ward (No. 402), and those either chronically or acutely physically ill (No. 401 center). The restless and disturbed were divided into two sub-groups: the less deteriorated and the more deteriorated. The less deteriorated were in need of hypnotics. Table 11 gives further details.

There were other differentiating characteristics among the foregoing 23 subjects: almost half (11 persons) were receiving medication every day or almost every day; the other half (12 persons) received hypnotics sporadically. Here again the less mentally disturbed were among the first group. Almost all of the first group were fully oriented, whereas 9 of the second group were disoriented; in the first group only 2 were classified as confused or disintegrated, whereas in the second group 8 showed these symptoms. Only 2 among the first group, but 11 of the second group, had obvious difficulty in communication. All 11 patients of the first group were able to take care of themselves, but in the second group only 1 was entirely able, and another partly able to take care of his personal needs. Eight of the first, but only 2 of the second group were enrolled in occupational therapy; and 6 and none, respectively, in psychotherapy.

Shifting to those with medical complications, it must be stated that although

TABLE 11

*Number of Patients Observed on Each Ward of VA Hospital Geriatrics Service, and Number Receiving Hypnotics*

| Ward | Number of patients observed | Number of patients receiving hypnotic drugs | Remarks |
|---|---|---|---|
| 402 B | 37 | 6 | Open ward, full privileges; 5 of the 6 patients received hypnotics daily, the sixth almost every day. |
| 402 D | 38 | 6 | The most restless and disturbed but not necessarily deteriorated patients; 3 received hypnotics daily, among them 1 who was offered ground privileges but refused because of claustro- and agoraphobic trends. |
| 401 Cnt. | 33 | 7 | Dormitory for acutely ill, and otherwise bedfast patients. None received hypnotics every day, 15 days being the maximum. |
| 402 A | 36 | 2 | These patients, both with privileges, received drugs daily. |
| 401 B | 36 | 1 | This patient received only 1 dose all month. |
| 401 C | 21 | 1 | Many were restless during the day. A number of physically handicapped used wheel chairs. |
| 401 D | 24 | 0 | Same as 401 C. Considered a ward for restless and deteriorated patients. |
| 402 C | 42 | 0 | Predominantly withdrawn and seclusive old schizophrenic patients. |
| 401 A | 30 | 0 | Predominantly disoriented and confused. |
| *Total*..... | *297* | *23* | |

11 out of 23 were suffering from arteriosclerosis, the after-effects rather than the disease itself caused their difficulties. Among these, myocardial damage due to coronary sclerosis or hypertension with or without decompensation, and after-effects of cerebrovascular incidents were most prominently represented. Other diseases were osteoporosis with lower back pain and bilateral sciatica, cirrhosis of the liver, colostomy after removal of a rectal carcinoma, and pituitary insufficiency after removal of a chromophobe adenoma.

The 52 patients in the intermediate category of minor sleep disturbances were distributed in two sub-groups: 1) those who were in need of bathroom facilities, and 2) those who were found awake in bed. Nineteen persons were in the former category. The data in Table 9 indicate that the overwhelming majority had no difficulty in falling asleep immediately afterward. This was verified by testimony of the hospital personnel. It may therefore be assumed that the sleep of the "bathroom" group was disrupted not by the cessation of the sleep mechanism but by stimuli originating in other areas. Of the remaining 33, only 2 were found awake at both the beginning and the end of the night. The rest were probably those who slept shorter hours and were little, if any, affected by this fact.

Table 12 classifies all patients included in the study according to systolic blood pressure below or above 150. The average blood pressure for all groups was 138 systolic and 84 diastolic. The highest systolic pressures taken were 220 in 1 subject, and between 200 and 220 in 5 others. As may be seen, the percentage of sleep disturbances did not differ between the two groups, and statistical correlations showed nothing of significance.

Tables 13 and 14 list separately those *with* symptoms of general arteriosclerosis —substantiated in most cases by x-ray examination of the chest—and those *without* such symptoms. There was no difference in sleep disturbance between the two groups.

TABLE 12

*Types of Sleep and Sleep Disturbance, According to Systolic Blood Pressure in 281 VA Hospital Neuropsychiatric Patients 55 Years of Age and Over (convulsive disorders excluded)*

| Sleep groups | Systolic blood pressure below 150 mm. Hg | Systolic blood pressure above 150 mm. Hg | Total |
|---|---|---|---|
| Major sleep disturbance: insomnia requiring hypnotics | 16 | 7 | 23 |
| Minor sleep disturbances (observed on night rounds) | | | |
| a. toilet needs | 14 | 5 | 19 |
| b. other causes | 20 | 10 | 30 |
| Total major and minor disturbances | 50 | 22 | 72 |
| Sleep without noticeable disturbances | 152 | 57 | 209 |
| *Grand total* | *202* | *79* | *281* |

TABLE 13

*Types of Sleep and Sleep Disturbance, According to Psychiatric Diagnoses with Clinical Symptoms of General Arteriosclerosis in VA Hospital Neuropsychiatric Patients 55 Years of Age and Over (convulsive disorders excluded)*

| Sleep groups | Diagnoses | | | | Total |
|---|---|---|---|---|---|
| | Schizophrenic reaction (various types) | Chronic brain syndrome with cerebral arteriosclerosis | Chronic brain syndrome with syphilis of the central nervous system | Other: (involutional & manic depressive psychoses, alcoholics, inadequate personalities, senile dementia, presenile psychosis, etc.) | |
| Major sleep disturbance: insomnia requiring hypnotics | 3 | 4 | 1 | 3 | 11 |
| Minor sleep disturbances: (observed on night rounds) | | | | | |
| a. toilet needs | — | — | 1 | 2 | 3 |
| b. other causes | 5 | 5 | 2 | 1 | 13 |
| Total major and minor disturbances | 8 | 9 | 4 | 6 | 27 |
| Sleep without noticeable disturbances | 25 | 39 | 18 | 19 | 101 |
| *Grand total* | *33* | *48* | *22* | *25* | *128* |

TABLE 14

*Types of Sleep and Sleep Disturbance, According to Psychiatric Diagnoses Without Clinical Symptoms of General Arteriosclerosis in VA Hospital Neuropsychiatric Patients 55 Years of Age and Over (convulsive disorders excluded)*

| Sleep groups | Diagnoses | | | | Total |
|---|---|---|---|---|---|
| | Schizophrenic reaction (various types) | Chronic brain syndrome with cerebral arteriosclerosis | Chronic brain syndrome with syphilis of the central nervous system | Other: (involutional & manic depressive psychoses, alcoholics, inadequate personalities, senile dementia, presenile psychosis, etc.) | |
| Major sleep disturbance: insomnia requiring hypnotics | 4 | — | 1 | 7 | 12 |
| Minor sleep disturbances: (observed on night rounds) | | | | | |
| a. toilet needs | 8 | — | 1 | 2 | 11 |
| b. other causes | 12 | 2 | 4 | 4 | 22 |
| Total major and minor disturbances | 24 | 2 | 6 | 13 | 45 |
| Sleep without noticeable disturbances | 66 | 7 | 19 | 16 | 108 |
| *Grand total* | *90* | *9* | *25* | *29* | *153* |

TABLE 15

*Factors Correlated with Sleep Disturbances and their Statistical Evaluation*

Part II: 70 nonpsychotic and mildly mentally ill county-home residents.

| Factor | $Chi^2$ | P | Significance |
|---|---|---|---|
| A. *Psychologic factors* | | | |
| Whether or not the elderly resident: | | | |
| 1. Is resigned and hopeless | .433 | >.50 | No |
| 2. Wishes to leave the county home | 1.924 | >.10 | No |
| 3. Has plans for the future | .180 | >.50 | No |
| 4. Accuses himself or accuses other persons and circumstances | 1.057 | >.75 | No |
| 5. Feels old | .582 | >.25 | No |
| B. *Social behavior and activities* | | | |
| (a) Whether or not he communicates with the outside world | | | |
| 6. Is visited by former friends and relatives | 1.899 | >.10 | No |
| 7. Has severed relationships with former friends and relatives | .914 | >.25 | No |
| 8. Is taken care of by former friends and relatives | 1.643 | >.25 | No |
| (b) Whether or not he participates in activities | | | |
| 9. Has social contact with other county-home residents | 4.493 | .05> P >.025 | Yes |
| 10. Works in or around the home | .310 | >.50 | No |
| 11. Is bedfast, is limited in movements, or moves freely | .249 | >.75 | No |
| C. *Physical and mental health* | | | |
| Whether or not he | | | |
| 12. Suffers from physical invalidism or disease | .188 | >.50 | No |
| 13. Complains of constipation | 3.980 | .05> P >.025 | Yes |
| 14. Has been an alcoholic | .536 | >.25 | No |

Similar tables were prepared in relation to the length of institutionalization and occupational status of the patients prior to hospitalization. These factors were found not to be significant.

Three items among those tested in relation to sleep *were* found to be of statistical significance: 1) the diagnosis (Table 10), 2) the factor of socialization, and 3) constipation (Table 15).

The statistical significance of diagnosis in relation to sleep appears to be a rather weak one. Patients in the first three classifications (schizophrenia, cerebral arteriosclerosis, and syphilis) did not differ essentially in their sleep behavior. It was the fourth group ("other"), consisting of a variety of heterogeneous diagnoses, that was the determining factor in making this relationship statistically significant.

The most probable explanation for the significance of the "other" group is that it consisted partly of manic-depressive psychoses, involutional depressions, psychoneurotic reactions, and some other psychoses with affective states—con-

TABLE 16

*Frequency of Occurrence of Symptoms in 70 Nonpsychotic and Mildly Mentally Ill County-Home Residents*

| Symptoms | Number | Per cent |
|---|---|---|
| 1. Pain in joints, limbs, back | 41 | 58.6 |
| 2. Fatigue | 28 | 40.0 |
| 3. Sight: poor or blind | 27 | 38.6 |
| 4. Hearing: poor or deaf | 27 | 38.6 |
| 5. Micturition: pain and frequency | 25 | 35.7 |
| 6. Dizziness | 23 | 32.8 |
| 7. Crippled limbs | 22 | 31.4 |
| 8. Headache | 19 | 27.1 |
| 9. Constipation | 17 | 24.3 |
| 10. Insomnia | 13 | 18.6 |

ditions which can be characterized as affective disorders. Liberson (55) and others have shown that patients with affective disorders have deeply rooted electroencephalographically demonstrable sleep disturbances which disappear, for instance, after electroshock therapy. In older patients, however, the interpretation of the electroencephalogram from the point of view of sleep disturbance was complicated by the age factor which, it was thought, might account for tracings similar to those found in the affective disorders, leaving the question open to further investigation.

That other than a mechanical approach to sleep disturbances, even in deteriorated patients, is possible is shown by two case histories, both involving the diagnosis of Alzheimer's disease, the onset of which dated back four to five years:

No. 156, **W.**, aged 59. Insomnia, disorientation, restlessness, tendency to wander, automatic movements, aimless picking at objects, disturbed speech articulation (only occasionally successful in bringing out words or short sentences). In spite of good appetite, there was loss of weight. Lowest blood count: RBC 3,650,000; Hgb. 62 per cent. Serum concentration of total proteins 5.69; albumin 2.82; globulin 2.87 Gm. per 100 cc.

No. 153, **S.**, aged 58. Sleepless, restless, pacing the floor. Did not talk. Ate very well but had to be fed. Was nevertheless losing weight. Infiltrative process in the right lung, suggestive of active tuberculosis.

Both patients responded to therapy based on an emotional approach of thoughtful consideration, a method described elsewhere (56). Although a standing PRN order for hypnotic drugs was given, Patient W. received this medication only twice, and Patient S. only once during the month of the survey.

No instances of so-called pathologic sleep, such as somnambulism, narcolepsy, or catalepsy, were observed in any of the patients in this investigation.

## SUMMARY

The most striking finding of this study is the fact that insomnia does not constitute a major problem in psychotic and nonpsychotic elderly individuals who

live in a controlled or semicontrolled environment. Each of the two separate investigations, made at different times and in different places, provided data which substantiated that of the other; in both studies the frequency of insomnia was much lower than had been expected. The results could be summarized as follows:

1. Sleep disturbances among 70 predominantly nonpsychotic elderly county-home residents were comparatively infrequent. Table 16 shows that the incidence of insomnia was lower than that of such conditions as hearing and sight deficiencies, joint and bone pain, dizziness, headache, or constipation, occupying tenth place in the list and affecting only 19 per cent of all subjects interviewed. Since these data are based on subjective information, and since the residents tended to overestimate rather than underestimate their sleep difficulties, this figure by no means minimizes their complaints.

2. Insomnia was even less frequent among the 281 psychotic patients of the Geriatric Division of a Veterans Administration hospital. Only 23 were receiving hypnotic drugs during a one-month observation period, 11 of them daily, and 12 sporadically. Hypnotic medication was received by about 8 per cent of the patients, or on roughly 5 per cent of patient-days. In 33 other patients, minor disturbances resulting in shortening of the sleep period were observed. It is, however, doubtful whether such disturbances could be considered in a clinical sense as symptoms of insomnia. These patients were not in need of any hypnotic medication. Even if these 33 were added to the 23 with major sleep disturbances, the total of 56 would increase the proportion to only about 20 per cent (as in the county-home series). The rest of the patients (80 per cent) were beyond any doubt, free from sleep difficulties.

3. Statistically, sleep disturbances and age were not significantly correlated.

4. No statistical significance was found when attempts were made to correlate sleep disturbances with general arteriosclerosis, with the level of blood pressure, with background factors as expressed in occupation prior to institutionalization, or with length of hospitalization.

5. Statistical significance was found when diagnosis was correlated with insomnia. Apparently the group of psychoses in which affective disorders play a considerable part was the determining factor. This confirms experience with other age groups, namely, that affective disorders are associated with deeply rooted disturbances in functioning of the sleep mechanism. The findings of the present study suggest that, not age, but the affective component primarily accounts for insomnia. Since, however, the statistical evidence was based predominantly on a group with a variety of heterogeneous diagnoses, no definite conclusions can be made and further investigation is therefore warranted.

6. Statistical significance was also found in 2 out of 14 correlations made of sleeplessness with psychologic, environmental, and somatic factors among elderly county-home residents. Less socialization was paired with more insomnia, and less constipation with less insomnia.

7. Clinical observation indicates that, contrary to some opinions, insomnia is more frequent among the less deteriorated, and/or the less psychotic or non-

psychotic elderly individuals. The presence of insomnia in acutely physically ill psychotic persons indicates that, in any case of acute sleep disturbance, there may be other causes than the original mental disease.

## DISCUSSION AND CONCLUSIONS

The fact that only a few of a number of attempted statistical correlations (among them the factors of socialization and constipation) were found to be of significance shifts attention to the role of psychologic and environmental factors in the pathogenesis of insomnia in elderly individuals. The correlation of insomnia and constipation and, in turn, the correlation of constipation and psychologic and environmental factors in elderly county-home residents, as recently described (57), give this concept further support.

The following factors must be taken into account in considering the pathogenesis of insomnia: 1) organic brain damage, 2) environmental influences, and 3) adaptation and adjustment mechanisms of the elderly individual.

1. This study does not provide evidence that organic brain damage is the only factor causing dysfunction of sleep mechanisms in elderly persons. On the contrary, it demonstrates that sleep mechanisms continue to function amazingly well in the overwhelming majority of observed organically damaged individuals. In our sampling, we had to deal predominantly with chronically but not acutely mentally ill patients who, as suggested by some investigators (58), apparently had sufficient time to compensate for their disabilities.

2. As a rule the persons in the patient's environment are negatively-minded toward the aged, particularly the sick and infirm aged (27c). At a critical time, when the elderly person is in need of understanding and help in overcoming his difficulties, he encounters lack of understanding, rejection and aggression. This attitude adds new difficulties to his already distressing situation, by creating factors primarily affective in character. These, in turn, increase the elderly person's psychic disequilibrium and thus influence his sleep.

3. Insomnia is mentioned by some authors as an initial symptom in certain organic brain diseases. The initial phase of a geriatric psychosis is the most difficult hurdle for the patient, and the most important for the development of new adjustments. It is very probable that such disturbances as memory defects, impairment of orientation, or inability to grasp the meaning of more complicated ideas or descriptions, are experiences of which the diseased elderly person is aware or partly aware. Exposed to a negatively-minded environment which makes his attempts at adaptation increasingly difficult, the patient gradually or abruptly loses orientation for a new adjustment and runs into mounting obstacles. In a protective hospital environment, particularly if there is a comparatively less aggressive attitude on the part of the personnel, he succeeds in making adjustments. In fact, under the influence of an overprotective hospital environment the patient makes his adjustment on a purely vegetative basis. When he finally reaches a state in which affective or emotional components of his mental condition are inactivated and no longer disturbing, insomnia is rare and the need for hypnotic drugs is low.

The less deteriorated elderly patients (particularly the less psychotic, who have a chance to leave the hospital; and the nonpsychotic, who still have some links with the outside world requiring new adjustments and the development of new adaptational mechanisms) are prone to experience more anxiety, disappointments, desperation, and hostility, with concomitant guilt feelings or other affective components—all of which interfere with their sleep. Such observations may, in part, also shed light on the controversiality of reports concerning the frequency of insomnia in elderly individuals. The existing lack of agreement probably reflects differences in environmental factors as well as variations in the elderly person's adaptational abilities.

It is difficult to say at the present time to what degree cerebral processes which are encountered in organic psychoses influence or damage the functioning of sleep mechanisms. However, regardless of organic components, a psychologic approach in all cases, even the most deteriorated and organically damaged, is justified. This study appears to confirm the conception of those authors (59–63) who believe that the psychotic behavior of an elderly patient suffering from an organically caused psychosis cannot be explained by somatic changes alone. Organic change is but one component; there are also environmental and psychologic factors.

Sleep can be used as an indicator of the degree of the elderly person's adaptational abilities. The presence of major sleep disturbances should always lead to an exploration of the patient's adaptational difficulties and of his environment. This method offers opportunities for treatment, and stimulates a psychologic rather than a mechanical or chemical approach to the elderly psychotic's difficulties, of which sleep disturbance is but one symptom.

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REFERENCES

1. Hippocrates: Selected Works. Trans. by Francis Adams. The Classics of the St. John's Program, Baltimore, The Williams & Wilkins Co., 1941, p. 201.
2. Pieron, H.: Le Problème Physiologique du Sommeil. Paris, Masson et Cie, editeurs, 1913.
3. Kleitman, N.: Sleep and Wakefulness as Alternating Phases in the Cycle of Existence. Chicago, The University of Chicago Press, 1939.
4. Gillespie, R. D.: Sleep and Treatment of Its Disorders. London, Balliére, Tindall and Cox, 1929.
5. Bartley, S. H., and Chute, E.: Fatigue and Impairment in Man. New York, McGraw-Hill Book Co., Inc., 1947.

6. Best, C. H., and Taylor, N. B.: The Physiological Basis of Medical Practice, ed. 5. Baltimore, The Williams & Wilkins Co., 1950.
7. Nauta, W. J. H.: Hypothalamic regulation of sleep in rats. An experimental study, *J. Neurophysiol.* **9:** 285, 1946.
8. Rothenberg, S.: Psychoanalytic insight into insomnia, *Psychoanalyt. Rev.* **34:** 141, 1947.
9. Hodes, R.; Heath, R. G., and Hendley, C. D.: Cortical and subcortical activity in sleep, *in* Trans. Am. Neurological Assoc., 77th Annual Meeting, 1952. Richmond, Va., The William Byrd Press, Inc.
10. Jekels, L.: A bioanalytic contribution to the problem of sleep and wakefulness, *Psychoanalyt. Quart.* **14:** 169, 1945.
11. Ranström, S.: The Hypothalamus and Sleep Regulation. An Experimental and Morphological Study. Copenhagen, Ejnar Munksgaard, 1947.
12. Cobb, S.: Borderlands of Psychiatry. Cambridge, Harvard University Press, 1946, p. 92.
13. Pavlov, I. P.: a) Conditioned Reflexes. London, Oxford University Press, 1927. b) Lectures on Conditioned Reflexes. New York, International Publishers, 1928.
14. Kleitman, N.: Reference 3, p. 502.
15. Srivastava, D. D.: My personal conception about the nature of sleep, *Antiseptic* **48:** 274, 1951.
16. O'Connor, W. A.: Pathological sleep, *Practitioner* (London) **166:** 494, 1951.
17. Martin, C. A.: Insomnia, *Laval méd.* (Quebec) **13:** 500, 1948.
18. Sadler, W. S.: Modern Psychiatry. St. Louis, C. V. Mosby Co., 1945, p. 744.
19. Strauss, E. B.: a) Insomnia, *Brit. M. J.* **1:** 350, 1951. b) Insomnia, *St. Barth. Hosp. J.* **52:** 163, 1948.
20. Solomon, M.: Insomnia, *M. Clin. North America* **29:** 178, 1945.
21. Magnussen, G.: The sleep function and sleep disturbances, *Ment. Hyg.* **37:** 108, 1953.
22. Kleitman, N.: Reference 3, p. 397.
23. Alpers, B. J.: Clinical Neurology, ed. 2. Philadelphia, F. A. Davis Co., 1950.
24. Boyd, D. A., and Braceland, F. J.: The practitioner and the older age groups: psychosomatic aspects, *M. Clin. North America* **34:** 1091, 1950.
25. Lansing, A. I., ed.: Cowdry's Problems of Ageing, ed. 3. Baltimore, The Williams & Wilkins Co., 1952.
26. Stieglitz, E. J., ed.: Geriatric Medicine, ed. 2. Philadelphia, W. B. Saunders Co., 1949.
27. Ginzberg, R.: a) Geriatrics and gerontology in every-day practice, *Individ. Psychol. Bull.* **7:** 21, 1949. b) The aging and the aged. Psychological and social aspects, *Individ. Psychol. Bull.* **8:** 117, 1950. c) The negative attitude toward the elderly, *Geriatrics* **7:** 297, 1952.
28. Thewlis, M. W.: The Care of the Aged (Geriatrics), ed. 5. St. Louis, C. V. Mosby Co., 1946, p. 54.
29. Stieglitz, E. J.: The Second Forty Years. Philadelphia, J. B. Lippincott Co., 1946, p. 70.
30. Boas, E. P.: Treatment of the Patient Past Fifty. Chicago, Year Book Publishers, Inc., 1944, p. 53.
31. Gumpert, M.: You Are Younger Than You Think. New York, Duell, Sloan & Pearce, 1944, p. 72.
32. May, P. R. A., and Ebaugh, F. G.: Use of hypnotics in aging and senile patients. A clinical study of Dormison, *J.A.M.A.* **152:** 801, 1953.
33. Matzdorff, P.: Grundlagen zur Erforschung des Alterns. Frankfort/Main, Germany, Verlag Dietrich Steinkopff, 1948, p. 135.
34. Jaspers, K.: Allgemeine Psychopathologie. Berlin, Springer-Verlag, 1946, p. 196.
35. Zeman, F. D.: Medical care of the normal aged, *in* Stieglitz, E. J., Reference 26, p. 131.
36. Cecil, R. L.: Old age and the vices, *J. Am. Geriat. Soc.* **1:** 604, 1953.
37. Müller, L. R.: Über den Schlaf. Berlin, Urban und Schwarzenberg, 1948, p. 149.
38. Magnussen, G.: Reference 21, p. 106.
39. Basylewicz, I.: Centenarians. The syndrome of normal senility, *Rhode Island M. J.* **32:** 315, 1949.

40. Laird, D. A.: A survey of the sleep habits of 509 men of distinction, *Am. Med.* **37:** 271, 1931.
41. Boas, E. P.: Reference 30, p. 54.
42. Rush, B.: On Old Age, (published in 1789). Selected Writings of Benjamin Rush, New York, Philosophical Library, 1947, p. 353.
43. Thewlis, M. W.: Reference 28, p. 317.
44. Sadler, W. S.: Reference 18, p. 546.
45. Stern, K.: Observations in an old age counselling center, *J. Gerontol.* **3:** 52, 1948.
46. Allen, E. A.: Psychiatric aspects of cerebral arteriosclerosis, *New England J. Med.* **245:** 678, 1951.
47. Saunders, P.: Disorders of sleep, *in* Oxford Medicine, ed. by H. A. Christian. New York, Oxford University Press, 1940, vol. 6, p. 1089.
48. Rothschild, D.: The clinical differentiation of senile and arteriosclerotic psychoses, *Geriatrics* **2:** 157, 1947.
49. Neumann, M. A., and Cohn, R.: Incidence of Alzheimer's disease in a large mental hospital, *A.M.A. Arch. Neurol. & Psychiat.* **69:** 636, 1953.
50. Menninger-Lerchenthal, E.: Schlafstörungen der Alternden, *Ztschr. f. Alterforsch.* **7:** 74, 1953.
51. Newton, K.: Geriatric Nursing. St. Louis, C. V. Mosby Co., 1950, pp. 91–92.
52. Walters, T. A.: Nervous and mental aspects of old age, *New Orleans M. & S. J.* **93:** 190, 1940.
53. Ginzberg, R., and Brinegar, W. C.: a) Psychiatric and medical aspects of a county home survey in Iowa, *J. Am. Geriat. Soc.* **1:** 283, 1953. b) Psychiatric problems in elderly residents of county homes, *Am. J. Psychiat.* **110:** 454, 1953. c) Studies of appetite and of constipation in advanced life, *Am. J. Digest. Dis.* **21:** 267, 1954.
54. Olsvary, V.: Psychologic aspects of a survey of elderly people in county homes in Iowa, (abstr.) *J. Gerontol.* **7:** 489, 1952.
55. Liberson, W. T.: a) Problems of sleep and mental disease, *Digest Neurol. & Psychiat.* (Institute of Living, Hartford) **13:** 93, 1945. b) Functional electroencephalography in mental disorders, *Dis. of Nerv. System* **5:** 357, 1944.
56. Ginzberg, R.: Geriatric ward psychiatry, *Am. J. Psychiat.* **110:** 296, 1953.
57. Ginzberg, R., and Brinegar, W. C.: Studies of appetite and of constipation in advanced life, Reference 53 (c).
58. Rothschild, D.: Pathologic changes in senile psychoses and their psychobiologic significance, *Am. J. Psychiat.* **93:** 757, 1937.
59. Malamud, W.: The psychiatric aspects of geriatrics, *J. Iowa M. Soc.* **43:** 461, 1953.
60. Rothschild, D.: Role of the premorbid personality in arteriosclerotic psychoses, *Am. J. Psychiat.* **100:** 501, 1944.
61. Malamud, W., Sands, S. L., Malamud, I. T., and Powers, P. J. P.: The involutional psychoses. A socio-psychiatric follow-up study, *Am. J. Psychiat.* **105:** 567, 1949.
62. Rothschild, D.: Neuropathologic changes in arteriosclerotic psychoses and their psychiatric significance, *Arch. Neurol. & Psychiat.* **48:** 417, 1942.
63. Sands, S. L., and Rothschild, D.: Sociopsychiatric foundations for a theory of the reactions to aging, *J. Nerv. & Ment. Dis.* **116:** 233, 1952.

*Addendum*

After this paper was completed, several other important publications appeared which deal with various aspects of the sleep-wakefulness mechanisms. Attention should be called to a Symposium, "Brain Mechanisms and Consciousness," organized by the Council for International Organizations of Medical Sciences (Springfield, Illinois, Charles C Thomas, Publisher, 1954), and particularly to the contributions of Magoun (pp. 1–15), Hess (pp. 117–125) and Bremer (pp. 137–158). This volume also contains an extensive bibliography.

# Abstracts of Current Literature

FRACTURES DUE TO CORTICOTROPHIN AND CORTISONE.

Annotations. *Lancet* **2:** 907 (Oct. 30) 1954.

Attention is called to reports of pathologic fractures as a result of decalcification of the skeleton attendant upon treatment with corticotropin or cortisone. Recently, 4 cases have been described of multiple pathologic fractures of the spine in male patients under treatment with these hormones. The patients had chronic rheumatoid arthritis and disuse atrophy but the long-continued administration of cortisone or corticotropin was considered an important cause of the osteoporosis that led to the fracture. These lesions might be prevented by encouraging physical activity, by administering testosterone, by limiting the intake of corticoids, and by exercising caution in the treatment of patients predisposed to osteoporosis—namely, elderly patients, postmenopausal women, and patients with severe arthritis.

COEXISTENT MYXOEDEMA HEART DISEASE AND PSYCHOSIS.

Calvert, R. J.; Smith, E., and Andrews, L. G. *Brit. M. J.* **2:** 891 (Oct. 16) 1954.

Two cases of coexistent myxedematous psychosis and heart disease are described. Both features in both cases responded well to thyroid therapy. A brief review and discussion of these two important complications of myxedema are given. The difficulties in the clinical diagnosis and confirmation of diagnosis are discussed, and the theories on causation of myxedematous psychosis are briefly mentioned.

THE ANEMIA OF OLD AGE.

Cooper, W. M. *Pennsylvania M. J.* **57:** 1002 (Oct.) 1954.

Age per se produces no significant change in the blood-forming organ. Increase in the sedimentation rate, thought to be due to blood protein alterations, is the only consistent change associated with the aging process. The bone marrow in the aged shows no qualitative difference from that of younger individuals. The mechanisms of anemia in the aged are the same as in other age groups. Nutritional deficiency is a frequent cause. Chronic renal disease produces anemia by two mechanisms: 1) the direct effect of the retained products of metabolism on the hematopoietic system, and 2) the effect of nutritional deficiency following the anorexia, nausea and vomiting that are a part of the symptomatology of the azotemia. Achlorhydria, which occurs in a high percentage of the aged, may be the cause of digestive symptoms—diarrhea, distention, anorexia—that initiate a nutritional deficiency syndrome. Hypochromic microcytic anemia is common in the aged and frequently is an indication of gastrointestinal malignancy. The leuko-erythroblastotic blood picture (anemia, thrombocytopenia, and leukopenia, and the appearance of metamyelocytes, myelocytes and nucleated red cells in the peripheral blood) is extremely serious and often the initial indication of a malignant disease. Pernicious anemia has an incidence as high as 72 per cent in individuals beyond the age of 50 years. So called "shot-gun" medications composed of folic acid, gastric substance, and vitamin $B_{12}$ in combination with iron and vitamins may contain sufficient erythrocyte maturation factor to correct the anemia partially and to alter completely the typical morphology of blood and marrow, but not enough

to control the neural and central nervous system symptoms of the disease. The resulting atypical clinical and hematologic findings and bizarre neurologic manifestations can only be proved to be those of pernicious anemia by the response to parenteral vitamin $B_{12}$ and liver extract. Toxic bone-marrow reactions to drugs like quinidine, phenolphthalein, and gold salts occur as frequently in the aged as in other age groups. The bone marrow in the aged responds to hemolysis or blood loss with a typical increase in erythroid elements. The response to iron in iron-deficient anemias and the response to liver or vitamin $B_{12}$ in individuals deficient in the erythrocyte maturation factor is definite and typical. Therefore, there is no justification for the designation "anemia of old age."

MESENTERIC VASCULAR OCCLUSION. PRESENTATION OF SIX CASES, ONE SURVIVING MASSIVE RESECTION OF THE SMALL BOWEL.

Eckstam, E. E., and Barry, G. R. *Wisconsin M. J.* **53:** 548 (Oct.) 1954.

Mesenteric vascular occlusion should be suspected in patients who have severe abdominal symptoms with comparatively few abnormal physical findings. The incidence is one for every 5,000 or 10,000 hospital admissions. Cases of arterial embolism and thrombosis slightly outnumber those of venous thrombosis. The condition usually is found in a man of about age 60. There is a sudden onset of moderately severe upper abdominal pain, with nausea and vomiting, and sometimes diarrhea. The abdomen is tender and a little rigid. Later it distends, and becomes silent and more rigid. The temperature is slightly elevated. The patient is in a state of shock that resists therapy. The white blood count is about 25,000 with about 90 per cent polymorphonuclear leukocytes, half of which are nonsegmented. On x-ray examination of the abdomen, there is a bizarre pattern of semidistended loops of small bowel showing fluid levels. Early exploration with adequate resection of the involved segment offers the best chance for cure. A case report is presented of a patient who survived resection of nearly all of the small bowel. Five other cases not previously reported are summarized.

CORRECTION OF SENILE ATROPHY OF EYELID AND BLEPHAROCHALASIS.

Feldstein, M. *Eye, Ear, Nose & Throat Monthly* **33:** 605 (Oct.) 1954.

The incidence of symptoms of senile atrophy of the lids and blepharochalasis is sufficient to warrant more frequent surgical attention than heretofore given. The increase in the elderly population will also increase the incidence. This is the domain of the ophthalmologist rather than the cosmetologist. A simple excision of a crescent of skin will usually suffice. The lower incision is advantageously made in the recess of the natural skin fold, curved and parallel to the lid margin. With this technic, it is usually unnecessary to suture the lower skin margin to the anterior surface of the tarsus. After the excision of excess skin is complete and hemostasis secured, the incision is closed with interrupted 6–0 silk sutures. This operation successfully relieved ocular fatigue and visual blurring caused by looseness of skin of the upper eyelids in 2 patients reported.

THE FACTOR OF INFECTION IN HEART FAILURE.

Flint, F. J. *Brit. M. J.* **2:** 1018 (Oct. 30) 1954.

From a study of 300 cases of heart failure in an industrial city, it was found that over half (167 cases) had some form of respiratory infection. In 156 cases there was good evidence that the respiratory infection was the precipitating cause of failure (bronchitis in 103, pneumonia in 51, tuberculosis in 2); and in only 11 patients, most of whom were comatose, was it thought to be secondary. Heart failure was precipitated by a respiratory infection in 74 of the 76 patients with cor pulmonale and in 82 of the remaining 224 patients with other forms of heart disease. The incidence of heart failure in winter was twice that in summer.

Postmortem examination was made in 88 cases. Death was due to pneumonia in 21 cases and to acute bronchitis in a further 17. The mechanism whereby acute respiratory infections give rise to heart failure may be one of the following: (a) Patients with commencing pulmonary congestion are particularly susceptible to bronchitis or pneumonia during the course of a cold or influenza. The infection, by potentiating the development of edema fluid, may increase the pulmonary resistance to right ventricular output and lead to overloading. (b) The infection may, directly or indirectly, damage the myocardium. It is suggested that antibiotics are at least as important as either digitalis or mersalyl in the treatment of heart failure. (Adaptation of Author's summary.)

PRIMARY ADENOCARCINOMA OF THE FALLOPIAN TUBE.

Goldberg, I. *Am. J. Obst. & Gynec.* **68:** 1169 (Oct.) 1954.

A review of the literature shows 520 cases of primary malignancy of the Fallopian tubes, and 2 are added in this report. This is the rarest but the most malignant of the pelvic neoplasms and is seldom diagnosed preoperatively. Symptoms that may aid in the preoperative diagnosis are irregular vaginal bleeding with an intermittent sudden release of fluid, low abdominal distress, and a palpable adnexal mass. The vaginal smear may be a valuable diagnostic aid. The distal two-thirds of the tube is the most frequent site of involvement. Invasion of the tubal wall usually is a late occurrence. The accepted treatment in operative cases is total hysterectomy with bilateral salpingo-oophorectomy. Roentgen-ray therapy may be used in addition and is advocated for palliation in more advanced and recurrent cases. The criteria established for pathologic diagnosis are: 1) Grossly, the main tumor is in the tube. 2) Microscopically, chiefly the mucosa is involved and shows a papillary pattern. 3) If the tubal wall is extensively involved, the transition between benign and malignant epithelium should be demonstrable.

EVALUATION AND USE OF ANABOLIC STEROIDS.

Gordan, G. S. GP **10:** 87 (Sept.) 1954.

This comprehensive review is summarized as follows: The testosterone compounds are anabolic as well as androgenic. Estrogens are anabolic for bone matrix formation. Either type of hormone is useful in the treatment of osteoporosis, Paget's disease of bone, and for prevention of vertebral fractures resulting from the administration of large doses of cortisone or corticotropin. In addition, methyltestosterone is useful in bringing a puberal spurt in growth and genital development in short, slender, sexually retarded boys. The search for a compound which exerts the growth effects of methyltestosterone without its masculinizing effect is still in progress. Thus far, only methylandrostenediol and nortestosterone have been sufficiently promising to receive wide clinical evaluation. Both compounds are anabolic and weakly androgenic. The anabolic agents are useful in palliation of advanced cancer of the breast, and by judicious use may lengthen and make more comfortable the life of many patients. The use of these compounds in many other conditions, such as wound healing, burns, skeletal fractures, and senile debilitation awaits critical clinical evaluation. (Author's summary.)

THE EFFECT OF CHEYNE-STOKES RESPIRATION ON PROGNOSIS.

Herndon, R. F., Jr., and Smith, H. L. *Minnesota Med.* **37:** 704 (Oct.) 1954.

In the course of the illnesses of 30 patients Cheyne-Stokes respiration developed. Nineteen (63.3 per cent) of the patients died. The prognosis was worse when this phenomenon developed in cases of severe cerebral or severe renal disease than when it developed in cases of cardiac disease. We believe that, when Cheyne-Stokes respiration occurs, one is justified in giving a grave prognosis but not necessarily a fatal one. (Authors' summary.)

GALLSTONE OBSTRUCTION OF THE SMALL BOWEL.

Karlin, S., and Miller, W. C. *J. Louisiana State M. Soc.* **106:** 391 (Oct.) 1954.

Aggressive treatment of early acute cholecystitis and of silent gallstones should reduce the incidence of gallstone ileus. Awareness of the possibility of gallstone ileus in patients with small-bowel obstruction should lead to earlier, more exact diagnosis. The attack begins with acute cholecystitis which results in ulceration and expulsion of a stone or stones into the intestinal tract. Massive hemorrhage into the latter may occur. Although the stone usually passes into the duodenum, obstruction may occur along the intestinal tract wherever there is disparity between the diameter of the stone and that of the lumen of the bowel, or because of induced spasm of the bowel. The most frequent site is near the ileocecal valve. Gallstone ileus usually occurs in obese females beyond the age of 60 years. Colicky pain, vomiting, and obstipation are present. Gallstone ileus can be differentiated from other forms of intestinal obstruction only if (a) air or barium is demonstrated in the biliary tract, (b) a stone is visualized in the bowel, or (c) a stone in the gallbladder region is no longer present and is seen elsewhere in the abdominal cavity. Once the diagnosis is established, surgery is imperative. The procedure of choice is simple longitudinal enterotomy, proximal to the stone, with closure of the bowel transversely. The cholecystenteric fistula is allowed to remain. Subsequent removal of the gallbladder and elimination of the fistula do not appear to be justified.

INTRAVENOUS ADMINISTRATION OF FAT EMULSIONS. METABOLIC AND CLINICAL STUDIES.

Kinsell, L. W.; Cochrane, G. C.; Coelho, M. A., and Fukayama, G. M. *California Med.* **81:** 218 (Sept.) 1954.

Fat emulsions alone or in alternation with amino-acid mixtures were administered by continuous intravenous infusion to human subjects. Too rapid administration resulted in toxic manifestations, apparently referable to an "overload" of the enzyme systems involved in fat catabolism and storage. The clinical and biochemical data so far available indicate that 20 grams of fat per hour for six hours exceeds the tolerance of an adult of average size, but that 10 grams per hour is well tolerated. It appears that adequate nutrition can be maintained by the infusion of a properly prepared fat emulsion.

CEREBRAL HEMODYNAMIC STUDIES ON HYPERTENSIVE-ATHEROSCLEROTIC SUBJECTS DURING HEXAMETHONIUM THERAPY.

Kleh, J., and Fazekas, J. F. *M. Ann. District Columbia* **23:** 480 (Sept.) 1954.

Eight subjects with the hypertensive, cerebral atherosclerotic syndrome were treated with hexamethonium chloride. On acute reduction of pressure all patients exhibited signs of cerebral ischemia and significant reduction of the rate of cerebral blood flow. With chronic administration of this drug in doses sufficient to reduce the pressure to normotensive levels these manifestations persisted in 4 patients despite a rate for cerebral blood flow not significantly different from that prior to therapy. These studies indicate that even a gradual reduction of pressure in such subjects with hexamethonium may be hazardous. (Authors' summary.)

PROBLEMS IN SURGERY OF THE GALLBLADDER.

Large, A. M. *Missouri Med.* **51:** 803 (Oct.) 1954.

Silent gallstones are likely to cause trouble and should be treated by cholecystectomy. Cholecystitis, common-duct stone, liver damage, and carcinoma of the gallbladder are

likely to develop and together constitute a much greater risk to the patient than does elective cholecystectomy. These facts are clearly borne out by autopsy as well as by clinical statistics. Acute cholecystitis may properly be treated by delayed emergency operation so that the acute process is allowed to subside somewhat before operation is performed. Experimental and clinical evidence indicates that stricture of the bile ducts had best be treated by suture of the severed ends of the duct whenever possible, with preservation of the sphincter of Oddi. If the distal end of the duct cannot be used, direct anastomosis of the dilated common-bile duct or hepatic duct to the side of the duodenum is the procedure of choice. Whenever a wide opening is made between the bile ducts and the intestine, the gallbladder, normal or abnormal, should be removed. (Author's summary.)

### POSTMENOPAUSAL OSTEOPOROSIS: A PROGRAMME OF TREATMENT IN 42 CASES.

MacKenzie, D. A., and Janes, J. M. *Canad. M. A. J.* **71:** 339 (Oct.) 1954.

Thirty-three women and 9 men with osteoporosis, postmenopausal or senile, were advised to sleep on a hard bed, fitted with a spinal support, and treated with a high-protein diet and an estrogen-androgen combination. Each received daily for six weeks 10 mg. of methyltestosterone with 1.25 mg. of conjugated estrogenic substances. An interval of one week without the hormones was allowed and then the regimen repeated for periods up to two years. Of the 34 patients followed, 29 were relieved of symptoms but 4 had a recurrence of pain. Pain relief was not complete in all of the 29. Five patients were not relieved of pain. Their treatment periods varied from two to six months. Sometimes pain was relieved after a brace was applied. In only 1 of 21 patients examined radiographically at the time of reevaluation, was there evidence of increased calcification of the vertebrae. In several, the degree of compression or the number of vertebrae compressed had increased. It is suggested that this regimen be given a trial whenever an elderly patient with back pain is proved to have senile or postmenopausal osteoporosis. The study suggests that osteoporosis per se does not produce pain. In most cases, following minimal trauma, there is a sudden onset of severe back pain caused by compression fracture of the weakened osteoporotic vertebral body.

### THE MIDLINE EXTRAPERITONEAL APPROACH FOR THE REPAIR OF INGUINAL AND FEMORAL HERNIAS.

McVeigh, H. J., and Barker, W. F. *West. J. Surg.* **62:** 534 (Oct.) 1954.

The midline extraperitoneal approach to the inguinal and femoral hernias provides excellent exposure of most of the anatomic features essential to proper herniai repair. It has proved difficult to extract the sac of some large indirect inguinal hernias. Sufficient tissue for good support may be lacking in some direct hernias. Adequate exposure with this technic demands major anesthesia, and the use of the procedure carries with it the disability of a major abdominal, although extraperitoneal incision. An unduly high number of complications were encountered in the first 30 patients operated upon by this route. The practical usefulness of the technic is probably limited, and should be applied only to bilateral femoral hernias without indirect components in patients who are good anesthetic risks. (Authors' summary.)

### TREATMENT OF GOUT WITH H. P. C.

Ross, D. N. *Brit. M. J.* **2:** 782 (Oct. 2) 1954.

Satisfactory results were obtained with H.P.C. (3-hydroxy-2-phenylcinchoninic acid) in 12 cases of acute gout or chronic gouty arthritis. H.P.C. was more effective and relieved symptoms more quickly and completely than colchicine, which had previously been used. In chronic cases of gouty arthritis, treatment for approximately one month was required

before appreciable improvement occurred. No major toxic effects complicated treatment but minor reactions, particularly skin rash, were common. Their occurrence led to the recommendation that H.P.C. be reserved for short-term treatment of acute episodes or for prophylaxis in individuals in whom premonitory symptoms occur.

PALLIATIVE TREATMENT OF METASTATIC CANCER OF THE BREAST.

Rukes, J. M., and Galante, M. GP **10:** 83 (Oct.) 1954.

The palliative treatment of metastatic cancer of the breast is outlined. In cases of far-advanced primary or metastatic breast cancer, when surgery can no longer be used, local radiation therapy is given if possible. When this is not practical, hormonal therapy is the next procedure of choice. In premenopausal and early postmenopausal women, castration (preferably surgical) is the next step, followed by androgens when there is a relapse or the patient does not respond to the effects of castration. In women five or more years past the menopause (spontaneous or induced) estrogens may be used, followed by withdrawal if relapse occurs or there is no response in three months, and then by androgens. More recently other measures, such as bilateral adrenalectomy combined with bilateral oöphorectomy, "medical adrenalectomies" utilizing cortisone suppression of the adrenal cortex, and hypophysectomy, have been used on an experimental basis. Results following palliative therapy with x-rays and hormones, even though not curative, have proved to be valid and practical. When the patient ceases to benefit from one of these agents, she may respond to withdrawal of the hormone or to administration of another hormone. By changing from one form of therapy to another, it is often possible to keep the patient comfortable and productive for a long time.

STUDIES ON THE CONTROL OF HYPERTENSION BY HYPHEX. V. EFFECTS ON THE COURSE OF THE MALIGNANT STAGE.

Schroeder, H. A.; Morrow, J. D., and Perry, H. M., Jr. *Circulation* **10:** 321 (Sept.) 1954.

Oral administration of hexamethonium chloride and 1-hydrazinophthalazine (Hyphex) was carried out according to established methods in 106 patients exhibiting the malignant stages of hypertension. Twenty-eight discontinued the use of these drugs after variable periods of time, and 25 died—all of hypertensive complications. The courses of 10 uremic individuals were unaffected. Of the 68 who continued treatment, 14 died—3 as a result of hypertensive complications. Controlled hypertension is, therefore, compatible with life for at least fifteen to thirty-six months, even when the malignant stage has supervened.

BASAL METABOLIC RATE AND BLOOD PLASMA CHOLESTEROL VALUES IN NORMAL INDIVIDUALS, DIABETICS, 1° AND 2° HYPERTENSIVES AND IN CASES OF MYOCARDIAL INFARCTION. EFFECT OF LOW FAT, LOW CHOLESTEROL DIET ON BLOOD PLASMA CHOLESTEROL.

Schwartzman, A. *M. Times* **82:** 723 (Oct.) 1954.

A study was carried out to determine the behavior of thyroid function, as manifested by the basal metabolic rate, and the level of plasma cholesterol: 1) in normal individuals, 2) in diabetic patients, 3) in individuals with essential hypertension, and 4) in individuals with a history of old or recent myocardial infarction. Among the 377 normal individuals, hypometabolism, hypermetabolism, obesity, and hypercholesterolemia were found in 66, 27, 45 and 27 per cent, respectively. Among the 98 diabetic patients these percentages were, respectively, 66, 31, 58 and 50; in the 86 hypertensive cases they were 55, 44, 65 and 61; and in 26 patients with proved myocardial infarction they were 96, 4, 65 and 61. Among 31

normal individuals originally showing hypercholesterolemia, 74 per cent showed normal values and 26 per cent only slightly elevated cholesterol values after being on moderately low fat-low cholesterol diets and thyroid medication (when indicated). The results justify the statement that hypertension, diabetes mellitus, and coronary thrombosis may occur at any age. In these studies, hypertension and coronary atheromatosis (assumed to be the basis for myocardial infarction) occurred most frequently in the fourth to sixth decades of life. The ratio between males and females was as follows: diabetics, 1:1; hypertensives, 1.2:1; and myocardial infarction, 3:1. The findings also substantiate the postulates that hypometabolism and hypercholesterolemia occur more frequently in coronary atheromatosis, diabetes mellitus, and essential hypertension than in normal individuals. It is postulated that a routine determination of the basal metabolism and plasma cholesterol level may be an aid in detecting "potential" coronary disease. This would prove of value to the patient as, by means of dietary restrictions and thyroid medication, it is relatively easy to obtain a normal plasma cholesterol level and a euthyroid state, thus eliminating one or two of the etiologic factors in coronary atheromatosis.

### A FORM OF ACUTE HEMORRHAGIC ENTEROCOLITIS AFFLICTING CHRONICALLY ILL INDIVIDUALS. A DESCRIPTION OF TWENTY CASES.

Wilson, R., and Qualheim, R. E. *Gastroenterology* **27:** 431 (Oct.) 1954.

The clinical and pathologic features of 20 cases of acute hemorrhagic enterocolitis are presented. Eight cases were observed clinically and at autopsy and 12 discovered by a review of hospital necropsy records for a six-year period. The disorder has occurred for the most part in elderly individuals with chronic cardiac disease or other debilitating illness. It has frequently simulated mesenteric thrombosis in its clinical manifestations but it is unlike forms of enterocolitis previously described. It has been abrupt in onset and rapidly fatal. The predominant abdominal signs and symptoms in the cases described were pain, tenderness and distention. Diarrhea was present in 15 of the patients and bloody diarrhea in 8. Vomiting occurred in 7, and bloody vomiting in 3. Pathologically, the disease has been characterized by diffuse edema and hemorrhage in the wall of the small and large intestine. The exact etiology and pathogenesis of acute hemorrhagic enterocolitis are uncertain, but intestinal capillary breakdown probably initiates the process. Senility, malnutrition, and congestion and anoxia of the intestinal capillaries secondary to heart failure may partly account for weakening of the vessel wall with consequent leaking of fluid, protein, and finally red cells into surrounding tissue.

### MULTIPLE MYELOMA.

Wold, L. E. *South Dakota J. Med. & Pharm.* **7:** 347 (Oct.) 1954.

The clinical features of 17 cases of multiple myeloma are presented. This disease should be suspected particularly in patients in the sixth and seventh decades who complain of bone pain, are cachexic, anemic, and have albuminuria, hyperproteinemia or pathologic fractures. Neurologic involvement and pneumonitis each frequently occur in patients with multiple myeloma. The rather frequent extramedullary involvement by multiple myeloma is pointed out. It is often necessary to obtain a second or third specimen of sternal marrow in order to establish a diagnosis. Therapy of multiple myeloma is discouraging and difficult to evaluate. The disease is not radiosensitive; therefore roentgen therapy is only palliative. The authors use urethane when bone pain develops. Enthusiasm for stilbamidine has waned. Results with cortisone and ACTH are equivocal and nitrogen mustard affords little benefit.